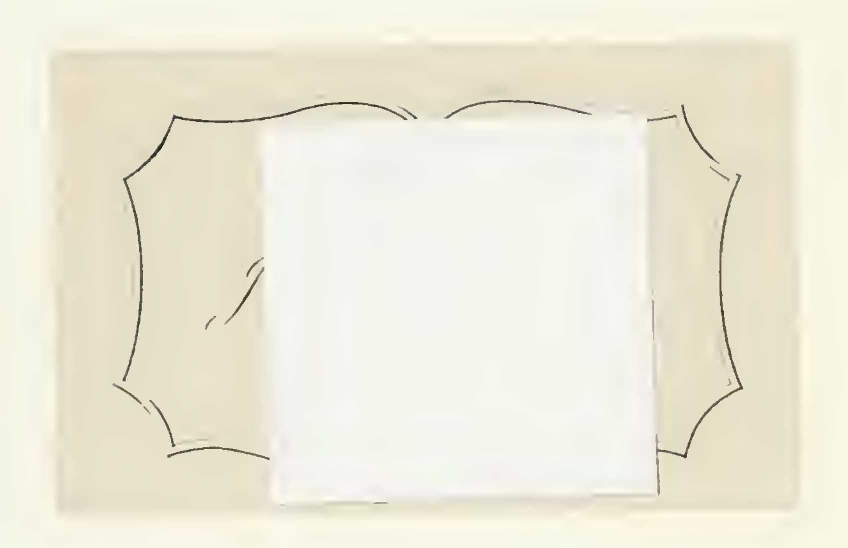
CYCLOPEDIA OF ARCHITECTURE

IN ITALY GREECE AND THE LEVANT











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A CYCLOPÆDIA OF WORKS OF

ARCHITECTURE

IN

ITALY, GREECE, AND THE LEVANT









CONSTANTINOPLE—INTERIOR OF STA. SOFIA

A

CYCLOPÆDIA OF WORKS OF ARCHITECTURE

IN

ITALY, GREECE, AND THE LEVANT

EDITED BY

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PREFACE

THE purpose of this volume is to give a conspectus of the architecture of Italy, Greece, and the Levant, arranged for easy reference, which shall be sufficient for the general reader or the traveller, and at the same time furnish the student of architecture a fairly adequate account of the important monuments and give him finger-posts for guidance in further investigation. It was at first proposed to record the historical and literary associations of the buildings; but it was found that this must swell the book beyond reason, or else exclude the fulness of description which the architectural student had a right to expect; the historical accounts are therefore limited to a statement of the most important facts.

The selection of examples has been a difficult work, and often a doubtful one. Italy is pre-eminently the land of architecture; her mediæval churches and palaces count by thousands, and her later buildings of importance are much more numerous; Greece and Asia Minor and Syria are strewn with the remains of classic architecture. Near the line of exclusion the choice often lay between buildings of practically equal importance, among which sometimes the chief determining influence was the necessity of deciding. Architectural interest first and historical second were the obvious tests, and so, while some large and conspicuous buildings are omitted, many less conspicuous are included on account of some quality of form or importance in the line of evolution, or occasionally for some historical association that makes them objects of common inquiry. The same reason led at times to what will be considered disproportion in fulness of treatment; but this is as often conditioned by the accessible

information, which is singularly unequal. Antiquity also gives not only interest, but exemplary value; and so, while the classical part of the book is fullest, the fulness naturally diminishes with the increasing centuries; as a rule the buildings of the nineteenth century are excluded. It is hardly to be expected that any one searching examiner will absolutely approve the selection made by another person, but it is hoped that the book may be estimated rather by the value of what it contains than by the desirability of what it omits.

Historical controversies are obviously out of place in such a book, and there has been no attempt to decide them. Whoever has studied architectural history knows the unevenness and uncertainty of the authorities; and the assumption of minute accuracy in points where such accuracy is not attainable has been avoided. The reader may be surprised at an appearance of looseness in the statement of dates and oftener of measures. This is from a set purpose to put him on his guard against a delusive precision. It is safe to say that no one knows the precise measures of many of the buildings that are given in the books, though they be stated with great minuteness; nor is this important for general purposes, provided they are true in the rough. In classic buildings, which are studies of minute proportion, archæologists have made a great effort at exactness, and the measures are given with corresponding minuteness; but in later architecture the reader should wittingly share the uncertainty in which the investigator is left. There is the same difficulty with dates. Often a building can be referred only to a particular reign or lifetime; often it is not clear to what part of it a recorded date refers. Frequent aliases and changes of name in both men and buildings are a further obstacle to investigation. Moreover, buildings, especially those which are in use, are subject to removal and alteration. A good deal of pains has been taken, up to the last moment, to revise the descriptions by personal examination; but this has not always been possible, and renewal is continual: doubtless, then, in particular cases, restoration or decay has changed details which are here recorded. It can only be hoped that the pains which has been taken has made the book on the whole trustworthy and adequate.

The question of orthography is another difficulty, especially in classical names. The systems of transliteration that have been lately devised by classical students are so inchoate and so far from consistent in themselves, that a reaction against them seems to be already setting in. For the necessary choice among rival inconsistencies that one which is simplest and most familiar has been preferred, and when a Latin form has gained currency in English it has been chosen, rather than the transliterated Greek. With modern names the case is different. Italian names at least are now reasonably familiar to educated people, and it is only for such inveterate misnomers as Florence and Leghorn, or such familiar names as St. Peter's, that the English form is used; it has been thought best, however, to give in the titles not only the real names of towns, but the transcriptions and corruptions of them that are most current in foreign languages.

Much care has been given to the illustrations: they are as full as they could well be without taking too much space from the text. The editor has tried to show familiar monuments in new aspects as far as was practicable. Some well-known subjects have been omitted in favor of others which it is less easy for the reader to find elsewhere, and many less conspicuous monuments are presented for the sake of some artistic interest or of their significance in the sequence of architectural forms. The illustrations have been made directly from photographs when this could be done, or have been drawn for use here: very few are reproductions of other illustrations, and for these credit is given. In two important instances special effort has been made to show what has heretofore been neglected:—the drawing of the rear of St. Peter's, carefully constructed from photographs and measured plans, gives the church as it would appear if the houses that crowd about its lower parts were pulled away, and shows it therefore as Michael Angelo intended it to appear, but as it is never seen. The photogravure of the interior of Sta. Sofia was prepared because the composite photographs that are in circulation show this noble interior with broken lines and distorted proportion, and the only published drawings which give an adequate impression of it, those of Fossati, are unsuited for reproduction.

The classical part of the book is the work of Mr. Thomas W. Ludlow, whose death before its publication not only is a great personal loss to his associates, but has deprived it of the last revision which he had hoped to give while it passed through the press. The editor's office has not gone beyond such modifications of form as were necessary to adapt it to the limitations of the book, and the occasional correction of an obvious clerical error: he trusts that Mr. Ludlow's scholarship and industry have made other alteration superfluous. The bibliography of this part, which Mr. Ludlow had not an opportunity to arrange, has been provided by Professor Harold N. Fowler. The greater number of the articles on the mediæval and later architecture of Italy was furnished by Mr. Charles A. Cummings, to whose co-operation a great part of the value of the book will be due. Some special articles, particularly on the Gothic and Romanesque churches of middle Italy, are contributed by Professor A. L. Frothingham, Jr., and are distinguished by his initials, being the unpublished record of his personal study of the monuments themselves.

W. P. P. L.

LIST OF ILLUSTRATIONS

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BIBLIOGRAPHY

To have attached memoranda of authorities to the separate articles would have greatly crowded or increased the following pages, and led to endless repetition. The list here given, with titles somewhat abridged, is selected from the embarrassingly abundant literature of the subject with the hope of leading the reader and the student to such further information as they may require. A complete bibliography has, so far as the editor knows, never been made out, nor the authorities brought together in any collection. They are but inadequately represented in the libraries of the United States, public or private. It is impossible to know them all, and some are here cited of which it is not possible to speak from personal knowledge.

It is hardly necessary to tabulate in detail the well-known histories and hand-books of Fergusson, Kugler, Lübke, Schnaase, Ramée, D'Agincourt, Durm, Adamy, Gailhabaud, Perrot and Chipiez; the biographical works of Milizia, Vasari, De Quincy; the treatises of Vitruvius and the great architects of the Renaissance; the serials, too many for mention, of the archæological societies, English, American, German, French, Greek, and Italian; the dictionaries of classical antiquities of Smith, D'Aremberg and Saglio, and Baumeister; or the various architectural journals, English, French, German, and sometimes American. Meyer's (Gsell-Fels and others) and Murray's guide-books, also the Guides Joanne, and Baedeker's Greece, contain much information, more valuable and trustworthy than they are often credited with.

To these may be added the following general treatises:

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GLOSSARY

[Architectural terms are used by different writers with much latitude, and variety of meaning. The glossary does not assume to record all the meanings that are given to the words that are cited, but only such as are used in this book.]

ABACUS—a flat slab which forms the top of a capital and receives its load.

ACROLITHIC—said of a statue which has head and extremities of marble, but except these is made of other material.

ACROTERIUM—an upright terminal ornament placed at the vertex or the foot of a pediment.

ADYTUM—a shrine.

AGORA—market square or forum.

AISLE—a long division of a building, bordered by columns or piers.

ALÆ—wings.

AMBO (plural ambones)—a pulpit or reading-desk; one of a pair set on each side of the choir of an early church.

AMBULATORY—the aisle that makes the circuit of the apse of a church.

AMPHIPROSTYLE—having a colonnade at each end. See *Temple*.

ANALEMMATA—the wing walls which flank the stage of a Greek theatre, and against which the end seats of the auditorium abut.

ANTÆ—pilasters at the ends of the lateral walls of a Greek temple on each side of an opening. See *Temple*.

ANTEFIXÆ—ornaments set along the upper member of a classic cornice, commonly in the form of anthemions.

ANTHEMION—a radiating leaf ornament in classic art, also known as palmetto and honey-suckle ornament.

APODYTERIUM—dressing-room.

APOPHYGE—the outward curve at the top or bottom of a classic shaft where it joins the base or capital. Called also congé.

APSE—a recess in the wall of a building, larger than a niche and showing in a projection outside. It is a common adjunct to churches. It is better to limit the word to round or polygonal recesses, though sometimes a square projecting bay is called an apse. A Byzantine apse is round within and polygonal without.

ARCH—a round arch is a semicircle; a segment arch, less than a semicircle; a horseshoe arch, greater. A depressed arch is a curve lower than a semicircle; a stilted arch is raised by continuing its lines downward vertically so that it is higher than a semicircle. Two arcs meeting in a point at the crown make a pointed arch. A ramping arch has one foot higher than the other. A bearing-arch, discharging-arch, or relieving-arch, is an arch built over another arch or a lintel to relieve it of its load.

ARCHITRAVE—the beam of wood or stone which spans the interval between columns, and hence the lower member of a classic entablature even when it is supported by a wall instead of columns. (See *Entablature*.) It is crowned by a moulding, and sometimes divided into bands.

A similar band and moulding carried round a classic door or window receives the same name. See *Order*.

ARCHIVOLT—an architrave bent round an arch.

ARCOSOLIUM—an arched niche for a sarcophagus in a burial chamber.

ASHLAR — masonry of squared stones dressed to uniform sizes, uniformly bonded and faced.

ASTRAGAL—a small round moulding, called also a bead.

ATRIUM—an open space surrounded by a colonnade or arcade, before a church or within a classic house.

ATTIC BASE—a classic base for a column, consisting of two toruses with a scotia between, separated by small fillets.

BALDACCHINO—a canopy over an altar. See also *Ciborium*.

BAROCO. See *Renaissance*.

BARREL-VAULT. See *Vaults*.

BASILICA—in its earliest known form a Roman building used as an exchange, and for magistrates' courts. It commonly consisted of a large nave enclosed on two sides, and sometimes on all four, by colonnaded aisles. The aisles were sometimes in two stories: the nave, which was always in one, rose above them and was lighted by a clerestory. There was often an apse at one end, where the magistrate sat, and rarely there was a transept. The Christian Church promptly adopted the basilica as the typical form of its churches. The colonnades became arcades, the side aisles were sometimes doubled. The doors were set in the end, usually the west end: the more important basilicas had at the other end a transept with raised floor set apart for the clergy: the apse was lined with seats for the higher clergy, the bishop's throne in the middle, and before it was the high altar; transept and nave were separated by a great arch called the Triumphal Arch. The name basilica adheres as a title to some of the more important churches of Rome which have lost their basilican form, as St. Peter's, St. John Lateran, and several others.

BAY—a vertical division or slice, as it were, of an architectural composition, marked off by pillars, buttresses, piers, or other indications, as the bays of a mediæval church. The Lombard churches developed a system of double bays in which two bays in the aisles correspond to one in the nave.

BEARING-ARCH. See *Arch*.

BED MOULDING. See *Order*.

BEMA—a tribune for public notices or speeches; also the sanctuary or place reserved for the celebration of the service in a Greek or early Latin church.

BOULETERION—council-house (or chamber).

BROACH — originally a spire set on a tower without intervening parapet or pinnacle. A broach-spire has come to signify an octagonal spire set on a square tower where the angles of the tower are covered by triangular pyramids leaning back against the diagonal faces of the spire.

BROLETTO—a North-Italian town-hall.

BUCRANIA—ox-skulls carved on the frieze of a temple.

BYZANTINE—the style of art developed under the Greek Empire from the V cent. to the XIV. The most conspicuous feature of its architecture is the dome on pendentives over a square area, of which the most important example is Sta. Sofia at Constantinople. This style substituted, like the Romanesque, the arcade for the colonnade, affected the Greek cross in its church plans, and perfected and used in great profusion the decoration of walls and vaults with pictorial mosaic.

CALDARIUM—the hot room or sweating-room of a Roman bath.

CAMPANILE—an Italian bell-tower.

CAPITAL. For classic capitals see *Order*. A Composite capital (with a capital letter) is a capital of the Composite order;

but a capital is sometimes called composite when it is classical in style, yet cannot be assigned to any order. The cubic capital is of Lombard origin, a cubical block, with its lower corners usually rounded off to meet the shaft. A cushion-capital is the same capital more cut away from its shape at the bottom, and more decorated. A crocket-capital is one whose bell is decorated with crockets, and is the Gothic analogue of the Corinthian.

Cavea—the auditorium of a Roman or Greek theatre, forming part of a circle or oval, and hollowed to a funnel shape, whence its name.

Cella—the enclosed part of a Greek or Roman temple.

Channels—longitudinal hollows cut in the surface of a Doric column. They differ from flutes (*q. v.*) in not having any fillets or flat strips between them.

Chevet—the French name for the chancel or sanctuary at the east end of a church. The French chevet usually but not always consists of a round or polygonal apse girt with an aisle and a series of radiating chapels.

Choir—the space, usually enclosed, which is reserved for the celebration of the service in a church.

Ciborium—a canopy over a high altar of a church, later called a baldacchino.

Cinquefoil. See *Foil.*

Clerestory—the upper part of a wall or nave when it rises above aisles or wings and is lighted by windows.

Cloister—an open court lined with arcaded galleries in a convent. The name is often given to the galleries themselves.

Cloistered Vault. See *Vaults.*

Coffer—a deep sunken panel in a vault or ceiling.

Composite. See *Order.*

Conch—a semi-dome over a niche or apse.

Confessio—a recess under the high altar of an early church to receive the body or relics of a saint.

Corbel—a solid bracket supporting a cornice, string-course, shaft, or other feature in mediaeval architecture.

Corinthian. See *Order.*

Cornicione—a principal cornice at the top of a façade.

Cortile—a courtyard or interior court in Italian architecture.

Cove—a half-vault, leading up into a flat ceiling.

Crepidoma—the platform or stereobate of a temple.

Cressets—iron baskets set up to hold lights, as for beacons.

Crocket—an upright Gothic leaf, curling outward at the tip, and ending in a knob or bunch of leaflets. It is used on capitals, and on the ascending ribs of pinnacles, gables, etc.

Cross-rib. See *Vaults.*

Crown-moulding. See *Order.*

Cruciform Church—one in which the nave and transept intersect, making a four-armed cross, in which all four arms are usually marked off by arches.

Cunei—the wedge-shaped groups into which the seats of a theatre or amphitheatre are divided by radiating passages.

Cushion-capital. See *Capital.*

Cusp—the sharp angle of two meeting curves. See *Foil.*

Cyma—a reversed curve or wave-line, or a moulding in that form. The Cyma Recta is horizontal at top and bottom, the Cyma Reversa, called also the Lesbian Cyma or talon, is vertical at top and bottom.

Cymatium. See *Order.*

Decastyle. See *Temple.*

Dentils—small square blocks used in a series as decorations for a cornice or string-course.

Diaconicon—one of the two small chambers which flank the chief apse of a Greek church. See also *Prothesis.*

Diagonal-rib. See *Vaults.*

Diazoma—the Greek term for a hori-

zontal encircling passage between the seats of a theatre—a precinction.

DIPTERAL. See *Temple*.

DISCHARGING-ARCH. See *Arch*.

DORIC. See *Order*.

DROMOS—a straight entrance-passage, as for the runners in a stadium.

DRUM—the ring-wall on which a dome stands.

DUOMO—an Italian name for a cathedral.

ECHEA—acoustic vessels, described by Vitruvius, and set about the auditorium of a theatre.

ECHINUS—the convex moulding which supports the abacus of a Doric capital. See *Order*.

EDICULE—a little building.

EMPOR—the German name for an upper aisle or gallery in an early church, afterward replaced by the triforium.

ENGAGED COLUMNS — columns set against a wall or pier so as to seem partially embedded.

ENTABLATURE. See *Order*.

ENTASIS—the convexity or swelling in the middle of the shaft of a classic column.

EPINAOS—the rear vestibule of a temple. Cf. *opisthodomos*.

EPISTYLE—the Greek name for an architrave over columns.

EXEDRA — originally a council-room. Then a seat carried round a central space as if for council, and for monumental uses a seat lining an apse or niche.

EXTRADOS — the upper convex surface of an arch, usually loaded with masonry. Cf. *Intrados*.

FAÇADE—the main front of a building.

FASCIA—a flat band among mouldings, wider than a fillet.

FAUCES—a narrow entrance passage or connecting passage in a building.

FILLET—a flat square-edged strip used among mouldings, called also a listel.

FLUTE — a longitudinal hollow corrugating the shaft of a column, differing from the chancel of a Doric column only in being separated from its neighbor by a fillet.

FOIL—the lobe of a cusped circle or panel. A figure of three lobes (like a clover leaf) is called a trefoil, of four a quatrefoil, of five a cinquefoil, etc.

FOLIATED—decorated with leaves.

FRET. See *Meander*.

FRIEZE—the member between the architrave and cornice of an entablature. See *Order*.

GOTHIC—this word is sometimes used to cover the whole of mediæval architecture. In this book it is used in its commoner and narrower meaning, of the pointed style, so-called, which prevailed in Europe from the XIII cent. to the XVI cent., expanding and developing the forms of the Romanesque, chiefly by means of the ribbed vault, the pointed arch, and a different style of decorative detail. It was brought into Italy in its earlier and purer forms by the Cistercian monasteries of central Italy, and in its later by German influence in northern Italy, where, especially in Venice, it took on a shape quite different from the original.

GRADINATA—the steps or benches in the auditorium of a theatre or amphitheatre.

GROIN. See *Vaults*.

GUILLOCHE — a continuous flat ornament, formed of interwoven bands of fillets leaving round interstices which are usually filled with rosettes.

GUTTÆ (drops) —small protuberances, like pegs driven up into the mutules or regulæ of the Doric entablature. See *Order*.

GYNÆCEUM—the women's quarters in a Greek house. A woman's gallery in an early church. Cf. *Empor*.

HEADERS—bricks or stones laid across a wall so that only the ends show.

Hexastyle. See *Temple*.

Hood Moulding—a raised moulding encircling the outside of an arch or arched window.

Hypæthrum—that part of the interior of a temple or other classic building which was open to the sky, or lighted directly from it. A hypæthral temple was one which had a hypæthrum; but there is much conflict among archæologists as to how this was arranged; or even whether there were any such.

Hypocaustum—a space contrived for heating the under side of a floor.

Hyposcenion—the front of a stage-platform in a theatre.

Iconostasis—a close screen before the choir in a Greek church, corresponding to the rood-screen of an English church and the jubé of a French church.

Impluvium—a depression to receive rain-water in the court of a Greek or Roman house.

Impost—the level where an arch rests on its vertical support. It is usually marked by a block, plain or moulded, and this block is itself often called the impost.

Intrados—the under concave surface or soffit of an arch. Cf. *Extrados*.

Ionic. See *Order*.

Isodomic—built of uniform stones, and bonded like a common brick wall of stretchers.

Joggled—notched together to prevent slipping.

Jubé—the rood-screen in a French church. Cf. *Iconostasis*.

Label—a projecting moulding which surrounds the upper part only of a door or window opening, a hood-moulding.

Laconicum—a hot-bath chamber.

Lacunar—a coffer in a ceiling.

Lancet—a tall narrow pointed window.

Lararium—a chapel or shrine in a Roman house containing the effigies of the Lares or household divinities.

Latin—the Latin form of church is the early basilican, developed in the time of Constantine (beginning of the IV cent.) or earlier, and used in and about Rome till the XII. It is not properly cruciform, but T-shaped, having no eastern arm; the nave does not penetrate the transept, but abuts against it.

Lintel—a horizontal beam covering an opening.

Loculus—a recess in a wall.

Logeion—a box of a classic theatre.

Loggia—a recessed gallery.

Lombard—the style of the early churches of northern Italy, so called because it was believed to have been introduced and developed under the Lombard kingdom, but really later than that kingdom. It was a form of Romanesque, characterized by cruciform plans, the early application of vaulting, clustered piers, the system of double bays in which the two bays of the aisles correspond to one of the nave, and an exterior decoration with pilaster-strips, arched corbel-tables, eaves-galleries, and vaulted porches borne by lions. It owed its character to German influences, and was much the same as the monastic style which was developed simultaneously in mid-Germany.

Lunette—a wall-arch cutting into a vault or cove, and often filled with a half-round window. Such a window is sometimes called a lunette.

Machicolations—holes between brackets in the soffit of an overhanging cornice, left open for the purpose of dropping missiles, hot pitch, or the like, upon an attacking enemy. The term is sometimes confusedly applied to the brackets which support the cornice.

Matroneo—a woman's gallery. Cf. *Gynæceum*.

Meander—a wavy line or scroll, continually reversing, in Greek decoration;

when the loops of the meander are made of broken straight lines it is called a fret: the words are often carelessly interchanged.

MERLONS—the solid upright slabs of a battlemented parapet.

META—the monument which marked the goal or turning point of the race-course in a circus. It was commonly an obelisk or group of obelisks set on the spina.

METOPE. See *Order*.

MEZZANINE—a half-story between two full stories, loosely applied also to a half-story above a full story.

MIHRAB—a prayer-niche in a mosque.

MIMBAR—a pulpit in a mosque.

MODILLION—the bracket of a Corinthian cornice.

MULLION—an upright bar, often a shaft, dividing a window.

MUTULE. See *Order*.

NARTHEX—a porch or ante-room across the front of a church, used in the early Church by the catechumens or others who were not allowed to enter the body of the church.

NAUMACHY—a mock naval battle; also the arena in which such a battle was held.

NAVE—the chief and central aisle of a church, wider than the rest and usually higher.

NOOK-SHAFT—a shaft set in a rectangular recess or nook.

NYMPHÆUM—a shrine or chamber, frequently subterranean or half subterranean, dedicated to nymphs and supplied with running water.

OCTOSTYLE. See *Temple*.

OCULUS—a small round window.

ODEUM—a small theatre under roof, for music.

ŒCUS—the state chamber of a Roman house.

OGEE—a reversed curve. See *Cyma*.

OMPHALOS—a sacred stone in the temple of Apollo at Delphi, believed to mark the centre of the world.

OPISTHODOMOS. See *Temple*.

OPUS ALEXANDRINUM—mosaic made of pieces of natural marble or stone cut to shape and laid in a decorative pattern; called also opus sectile, used almost exclusively for floors.

OPUS INCERTUM—uncoursed masonry or rubble.

OPUS QUADRATUM—squared masonry.

OPUS RETICULATUM—masonry faced with small squared stones set corner-wise so as to show diagonal joints.

OPUS SECTILE. See *Opus Alexandrinum*.

OPUS SIGNINUM—a strong hydraulic cement used for lining aqueducts and other like purposes.

ORDER—the unit of classic architecture, comprising the column and its entablature, and called Tuscan, Doric, Ionic, Corinthian, or Composite, according to its details. The column consists of base, shaft, and capital. The entablature comprises the Architrave or lintel, which rests upon the columns and is cut in one, two, or three flat bands, its top marked by a projecting moulding; the Frieze, a high band either plain or decorated; and the projecting Cornice, supported by its Bed-moulding and sometimes by brackets, and ending in a Cymatium or Crown-moulding. The Doric, Ionic, and Corinthian orders are both Greek and Roman, though the Corinthian was fully developed only under Roman influence. The Greek Doric is heavy and massive: it has no base, a channelled shaft, and a capital with a heavy square abacus supported by an oval moulding called the Echinus. Its frieze is decorated with flat channelled blocks called Triglyphs, whose feet seem to overhang the architrave in small horizontal bars called Regulæ, decorated with drops or Guttæ, and between which are square panels called Metopes, often charged with sculpture. The over-

hang of the cornice carries a flat block called a Mutule over each triglyph, whose surface is studded with Guttæ. The Roman Doric is lighter. The columns have a base; the architrave is lower and the frieze higher. The Ionic has a fluted column and a capital with large scrolls or Volutes at the corners and an echinus under them, a frieze plain or charged with continuous sculpture, and a cornice usually with dentils. The Corinthian has a fluted column, a high capital surrounded by two ranges of acanthus leaves with small volutes at the corners, a frieze like the Ionic, and a cornice enriched with dentils, brackets called Modillions, and carved mouldings. The Tuscan and Composite are Roman only. The first is a simplified Doric, without channels, triglyphs, or mutules; the second a somewhat simplified Corinthian, its heavier capital carrying larger volutes and an echinus like the Ionic. Often an order stands on a pedestal-course or stylobate. (*See Figs.* 32, 91, 133, 184.)

Palestra—a place for wrestling—a wrestling-school.

Palladian window—a group of three openings separated by columns or pilasters, the middle one arched and the lateral ones square-headed. This has been called also the Palladian Motive.

Parodoi—side entrances to the auditorium of a Greek theatre, next the stage.

Parvis—an open space or yard in front of a church.

Patera—a round, flat, carved flower, used as an architectural ornament.

Pediment—the gable of a classical order or building. It has invariably a horizontal cornice joining the feet of the raking cornices.

Pendentive—a kind of cove covering the corners of a square area, so as to leave only a circular or polygonal space unroofed. It is commonly a piece of vaulting, in shape a spherical triangle, resting on the flanks of two arches on adjoining sides of the square, and leading up from the angle to a ring which, supported by the four pendentives carries a dome (or its drum) that covers the central circle, so that the whole may be borne on four piers at the corners. (*See Fig. 106.*)

Peperino—a hard granular volcanic stone.

Pergola—the groups of windows, or arcade, opening on a balcony, which forms the central feature in the fronts of most Venetian palaces.

Peribolos—the walled court in which a temple stands.

Peripteral. See *Temple.*

Peripteros—a colonnade surrounding a building.

Peristyle—a colonnade about a building or a court.

Piano nobile—the chief story.

Pilaster—a rectangular pillar in classic style, usually engaged in a wall.

Piscina—a basin.

Plinth—the lower flat upright member of a group of mouldings at the base of a column or wall.

Podium—the lower division of a wall, or basement.

Precinction—a horizontal passage or circuit among the seats of a theatre or amphitheatre, the Greek diazoma.

Presbytery—that part of a church which is occupied by the priests during service—usually applied to the early churches.

Pronaos. See *Temple.*

Propylæum (plural, Propylæa)—a monumental colonnaded gateway, as, for instance, that of the Acropolis at Athens.

Propylon—an advancing structure covering or flanking a gateway.

Prostyle—applied to a temple which has a portico at one end. See *Temple.*

Prothesis: One of the two small rooms like sacristies that flank the main apse of an early Byzantine church. See also *Diaconicon.*

PTEROMA—the colonnaded gallery that surrounds the cella of a peripteral temple.

PURLIN — a horizontal cross-timber which supports the rafters of a roof.

PYCNOSTYLE—having columns set very near together.

PYLON—a gate-house. See also *Tetrapylon*.

PYRGOS—a bastion.

QUATREFOIL. See *Foil*.

QUOINS—contrasting cut stones which form the angle of a wall of brick or stone. They are often simulated in brickwork.

RAMP—an ascending line of stairway.

REGULÆ. See *Order*.

RENAISSANCE—the name given to the revival of classic forms in art which followed the revival of classic literature, and in the course of the XV and XVI cents. changed the whole aspect of art in Europe. The Renaissance in architecture began in Italy, in the middle of the XV century. In its earliest phase, which is sometimes spoken of *par excellence* as the Renaissance, it showed itself in the free application of classic detail to mediæval forms. In the XVI cent., the period of what Germans have called the High Renaissance, there was a minute study and loyal adaptation of all the forms of Roman architecture to new buildings, which became purely classical in proportions and detail. By the middle of the XVII cent., Renaissance architecture had degenerated into what is called baroco, or baroque, in which purity of form and detail is sacrificed to picturesque effect: and in the course of half a century more this had passed into the so-called rococo, in which there prevailed a wild perversion and corruption of architectural features, small and great.

REREDOS—an architectural screen, or facing of a wall, behind an altar.

RESPOND—a half pillar set against a wall, corresponding to a pillar opposite, as in aisles of churches: hence its name.

RETICULATED. Cf. *Opus Reticulatum*.

REVET—to encase a rough wall with a smooth facing of masonry or slabs.

RIB. See *Vaults*.

RINGHIERA—an outside balcony used for public proclamations.

ROCOCO. See *Renaissance*.

ROMANESQUE — a name given to the style of architecture which in western Europe followed the decay of the classic styles, beginning obscurely in the VI or VII century. It abandoned the classic orders, substituted the arcade for the colonnade, and was the nurse of the typical mediæval forms of church-building in the west, which it developed out of the Roman basilica, evolving a consistent system of vaulting, and furnishing most of the features which in altered shape were characteristic of the Gothic architecture that followed it in the XIII century.

ROOD SCREEN—the English name for a screen which cut off the choir of a church from the nave, and which carried a raised cross called the Rood. It corresponds to the Greek Iconostasis.

ROUNDEL—a round panel, usually containing sculpture.

RUSTIC or rusticated masonry is cut in squared projecting blocks, whether smooth or rough-faced, with the joints deeply channelled.

SCOTIA—a hollow moulding whose section is the half or more of a circle or oval.

SEKOS—the inner chamber or sanctuary of a Greek temple.

SGRAFFITO—an ornament wrought in plaster, after the manner of a cameo, cutting through or scraping off an outer layer and exposing an inner layer of a different color.

SOFFIT — the under side of an arch, beam, or horizontal member.

SPANDREL—the triangular space over the flank of an arch.

SPHENDONE—the semicircular end of a stadium or circus.

SPHERISTERION—a court for ball-playing.

SPINA — the longitudinal wall which divides the direct course from the return course in a hippodrome, circus, or stadium.

SQUINCHES—arches which bestride the corners of a square, cutting it down to an octagon, to carry a dome or drum.

STADIUM : A course for runners.

STELE—an upright slab, commonly used for a funeral monument, and carved.

STEREOBATE—the foundation-platform of a temple or other classical building.

STILT-BLOCK—a block, usually moulded, set between the abacus of a column and the arch which it bears.

STOA—an open colonnaded portico.

STRETCHERS — bricks or stones laid lengthwise in a wall.

STRING-COURSE—a carved or moulded course which divides a wall horizontally.

STYLOBATE—the architectural member on which a colonnade rests ; thus, in Greek architecture the upper step of the stereobate of a temple ; later, a low wall carrying a colonnade, and usually finished with a moulded base and capping ; still more generally, by analogy, the lower division of a wall, finished like the stylobate of a colonnade.

SUDATORIUM — the heated room of a bath, used for sweating. Cf. *Caldarium.*

TABLINUM—the family-room of a Roman house, where family records and portrait busts were kept.

TAMBOUR—the drum which carries a dome.

TEMENOS—the sacred enclosure about a Greek temple or temples.

TEMPLE—The usual plan of a classical temple was an oblong rectangle. It consisted of a closed building called the cella, more or less surrounded by porticoes. The heart of the cella was the Naos ; at the front end was usually an open vestibule called the Pronaos, and in the rear often a small corresponding room, sometimes accessible only from without, called the Opisthodomos, or Posticum. The projecting ends of the side walls of the cella were faced with pilasters called Antæ, and columns set between these are said to be *in antis,* a designation which is often extended to the temple so built itself. The temples commonly fronted east with the long sides facing north and south. They were always roofed with a ridge, and crowned at each end with pediments, which commonly overhung at one end at least, supported by colonnades and forming open porticoes. A temple with a portico at one end was called prostyle ; at both, amphiprostyle. One surrounded by a colonnade was peripteral, and the colonnade became a peristyle. When the columns were in a double range all round, the temple was dipteral ; it was pseudo-dipteral when the columns were spaced as for a dipteral temple, but with the inner range suppressed, and pseudo-peripteral when the peristyle was engaged in the side walls of the cella. There were also round temples, surrounded by a colonnade. When these had a cella they were peripteral : when they were open they were monopteral. Temples are also classed according to the number of columns in the end porticoes ; when these are four, the temple is tetrastyle ; when six, hexastyle ; when eight, octostyle ; when ten, decastyle, the number being always even, except in very rare instances.

TEPIDARIUM—a warm room of a bath.

TETRAPYLON — a gate-way penetrated by two intersecting passages, and showing arches on four faces.

THERMÆ—public baths.

THOLOS — a small round building in Greek architecture.

THYMELE—a small altar to Dionysos in the middle of the orchestra of a Greek theatre.

Torus—an annular moulding of semicircular section ; a roll moulding.

Tracery — the open-work filling of a window, archway, or other opening. It is usually composed of intersecting bars of stone or other material ; but sometimes is a perforated slab, in which case it is called plate-tracery. In most cases it is confined to the arch itself, or the upper part of the opening, and supported below by upright bars called mullions.

Transept—the cross-wing of a basilica or church. The two arms constitute one transept, but are often spoken of as north and south transepts. There are a few churches which have actually two transepts.

Transom — a horizontal bar across a window.

Trefoil. See Foil.

Triclinium — the dining-room of a Greek or Roman house.

Triforium—an arcade pierced in the nave wall of a church above the principal arcade and below the clerestory. In certain churches an open gallery takes the place of a triforium. See *Empor* and *Gynæceum*.

Triglyph. See *Order*.

Tunnel-vault. See *Vaults*.

Tympanum—the flat piece of wall that fills an arch or pediment.

Vaults—A Barrel-vault is a half cylinder ; when it forms a ring, or part of one, it is an Annular vault. It is a common form of Roman vault, and is then usually a solid shell of concrete, sometimes strengthened by chains of brickwork, but is occasionally of cut stone. A Tunnel-vault is the same as a barrel-vault, but is sometimes pointed in section. Groined vaults, or cross-vaults, are vaults which intersect, forming salient edges called groins, as when two aisles or galleries cross. A Cloistered vault is a square dome, or a vault over a rectangular room, closed in on all sides. Projecting Ribs strengthen the angles or soffits of vaults. The rib against the wall that closes the end of a vault is called the Wall-rib ; those that strengthen the groins are Diagonals ; those that simply cross the soffits are Transverse ribs. Only transverse ribs are found in Roman vaults, and these rarely. Ribs came into use in later Romanesque vaults, and are universal in Gothic. A band which does not project is not a rib.

Vaulting-shaft—an engaged column which supports the ribs of a vault and springs sometimes from the ground, sometimes from a capital or corbel above it.

Velum—an awning.

Venetian window — same as Palladian window.

Volute — a spiral banded ornament used on the corners of Ionic or Corinthian capitals, on the sides of modillions, and in some other places.

Vomitoria—exit passages in a theatre or amphitheatre, descending under the seats.

Voussoirs—the wedge-shaped stones of an arch or vault.

Wall-rib. See *Vaults*.

A CYCLOPÆDIA OF WORKS OF

ARCHITECTURE

IN

ITALY, GREECE, AND THE LEVANT

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WORKS OF ARCHITECTURE

IN ITALY, GREECE, AND THE LEVANT

ABBIATEGRASSO, near Milan, Italy.

STA. MARIA is a plain old church, which is conspicuous for the fine porch added by Bramante, it is said, in the XV cent.; it stands in the corner of an open space, like an atrium, which is lined with an arcade, and adjusted in its design to the church



Fig. 1.—Abbiategrasso, Church

façade. Against the plain brick front of the XIV cent., with a single great gable covering both nave and aisles, is built a projecting porch to the full height of the nave, which it covers. It is a huge arch, two stories in height, borne on advancing walls which are faced with two superposed orders of coupled Corinthian columns. The side walls, pierced with arches into the adjoining arcades, are panelled with reliefs, and the orders are continued in pilasters which flank and surmount the door of the nave at the back of the arch, with niches and reliefs in their intercolumniations. The porch, which bears the character of Bramante's work in and about Milan, was built by him, according to M. Geymuller, in 1477, according to others, later. (*See Fig. 1.*)

ABU-GOSH (anc. Kirjath Jearim), near Jerusalem, Palestine.

ST. JEREMIAH, a Crusaders' church now in possession of the Latins, and apparently of the XII cent., is remarkably well preserved. It is a rectangle 57 ft. by 86 ft. outside, and consists of a nave and aisle of four bays, ending in three apses hollowed out of the thick, straight eastern wall. Its architecture has many Eastern peculiarities. The nave and aisles are of nearly equal breadth and height, the bays almost square; the pointed arch, used throughout, is broad and low, the groined vaulting of singularly low pitch, the aisle roofs flat, leaving room for small clerestory windows in the lunettes of the nave; the plain piers square and slender, without capitals or moulded bases. The exterior is very plain. There is a vaulted crypt, or rather under-church, arranged on the same plan as that above, and apparently underlying the whole. Upper and lower church were once decorated with

painting, of which traces still remain. The earliest mention of the church is in the XVI cent., when it was in the hands of Franciscan monks. The ruins of their convent adjoin it.

ACERENZA, Italy.

The CATHEDRAL, dedicated to Sta. Maria Assunta, is an ancient Romanesque church founded about 1050, but probably rebuilt later. It has a length of about 235 ft. and a breadth across transept of 135 ft. Its plan is more like that of the French Romanesque churches of Auvergne than is common in Italy. It enters through a porch or narthex between two angle towers. The nave and aisles are covered by wooden roofs and are separated by arcades of five round arches springing from square piers, the aisles being divided by transverse arches into square bays. The transept is long, with square ends, and each arm has a small flat eastern apse and a stair-turret in the angle with the choir wall. The choir, raised high above the nave, is in a single square groined bay with a round apse and encircling aisle, with three apsidal chapels at the circumference. Beneath is a small crypt vaulted on four marble columns, and rebuilt early in the XVI cent. The exterior shows Lombard influence: the windows are round-arched, the walls of choir and apses broken by pilaster strips ending in arched corbel-tables. The west front had originally three doorways. Only the central one remains; it has a round bearing-arch formerly capped by a gable, and angle shafts carried on strongly projecting corbels with grotesque carving. The joints of the doorway are ornamented with graceful foliage in relief, having a touch of Byzantine character. Over the doorway is a fine rose window, with simple forms, the original columns now replaced with iron shafts. Of the two flanking towers, only the southern was finished.

ADABASAR, Asia Minor.

BRIDGE OF SOPHON, built in 561 by the Emperor Justinian, and remaining in almost perfect preservation. It crosses the bed of the Sangarios, now dry, is 1,400 ft. long, and has eight arches, each with a span of 75 ft. and with small arcades on each side.

ADAM-KLISSI (Dobrudscha), Roumania.

TROPHY OF TRAJAN, a massive circular tower of masonry, commemorating victories over the Dacians, standing near a small Turkish village about twenty miles from Medjidié, and ten from the Danube. The sculptures are rough in character, but represent scenes from the campaigns of Trajan and give points of comparison with the reliefs of the Column of Trajan at Rome. The probable date is 109 A.D.

ADRIANOPLE, Roumelia, Turkey.

The MOSQUE OF SELIM, the work of the famous architect Sinan, was built by the Sultan Selim II (1566–74). It is a building about 190 ft. wide by 160 ft. deep, preceded by a court-yard of nearly the same size which is surrounded by arcaded galleries on all sides, and has the usual fountain in the middle, under a marble kiosk. The galleries, with columns of rich stone and marble, are groin-vaulted, and across the front of the mosque proper form a porch broken by three high pointed arches. The main feature of the mosque, the great central dome of some 90 ft. span, and higher, it is said, than the dome of Sta. Sophia, rests on eight great octagonal porphyry piers. The entrance porch, and a large projecting sanctuary, in the back of which is the mihrab, or prayer niche, serve to buttress the dome in front and rear, while the huge side buttresses inclose rooms, and with the side piers support lateral galleries for the sultan and his suite, and for women. The interior is lavishly decorated with painted tiles, colored glass, and polychrome. A high minaret with galleries or balconies is set on each corner of the building, and various dependencies, schools, hospitals, and others, are grouped about it. (*See Fig. 2.*)

ÆGAE (Aigai, Nimroud-Kalessi). Æolia, Asia Minor.

FORTIFICATIONS. The walls bear witness to repeated enlargements of the city. The nucleus is a triangle, on the highest part of the hill, with traces of an acropolis at the southern angle. The masonry is of rough polygonal blocks with gates and towers. The wall on the S. W., in places exposed to attack, is strengthened by a Hellenistic facing-wall placed some feet in front of it, built of very careful rectangular masonry in large blocks. Still later walls on the S. W. are strengthened with circular towers from 20 ft. to 27 ft. in diameter.

MARKET HOUSE, on the N. E. side of the highest terrace. The length of the main façade is 270 ft.; that of the northern façade, where there is an L, 88 ft.; and the width of the building, 37 ft. The main wall in three stories still rises to a height of 33 ft. and is of Hellenistic date, of admirable execution. The lowest story is divided into a double series of chambers, about 14 ft. square, with doors and windows contracting toward the top. The front chambers toward the north, over the precipice, have merely very small rectangular openings for light high up in the wall. The middle story appears to have had a line of arches running down the middle, and was lighted by small and sparse openings in the wall between the ceiling beams. The uppermost story was essentially an open portico, with a range of Doric columns and entablature. On this side the ground lay much higher, and there was immediate access to the portico from the open air by steps. The roof was supported by an interior range of columns spaced at double the intercolumniation of the outer range. The front wall and the lower parts of the building seem due to the III cent. B.C., while the upper portico was a restoration of Roman imperial date.

STADIUM, forming a terrace by itself S. W. of the theatre and further down the slope. The level area is about 740 ft. long and 65 ft. wide. The west side is supported by a massive retaining-wall of polygonal style but built of large blocks very nearly quadrangular and carefully fitted.



Fig. 2.—Adrianople, Great Mosque.

STOA or portico on the west side of the agora terrace, opposite the market. It was about 37 ft. deep and had an inner range of columns with curious capitals formed of hanging tongue-shaped leaves. The entablature is remarkable for a widely projecting cornice with panelled soffits, and has on the inner side corbels cut in the form of ox-heads to receive the roof-beams.

TEMPLE, at the western extremity of the inner triangle of the city, on a terrace above the theatre. The foundations of the cella show that it either was double or had a

very deep pronaos. The temple was Doric and of late date, with probably six columns on the fronts and twelve on the flanks. The terrace was skirted on the N. E. and S. E. sides by a large two-storied portico about 21 ft. deep, with Doric columns below and Ionic above. The angles of junction, both above and below, were occupied by square pillars with the sharp edge turned toward the interior, and with two semi-columns engaged in the faces corresponding to the exterior columns. The upper story had a parapet of panelled slabs.

Temple of Apollo Chresterios (rendering oracles), dedicated about 40 B.C. by the Proconsul P. Servilius Isauricus. It was Ionic, with fluted columns about 24 ft. high and an inner range of smaller columns before the cella. The frieze was ornamented with carved garlands and bucrania; the dentilled cornice was richly moulded. The great doorway of the cella, formed of three monolithic blocks and over 20 ft. high, still stands.

Theatre, on the slope S. W. of the inner triangle of the city. There are but scanty remains of the seats of the cavea, which is less than a quadrant; the wings are supported upon very massive and carefully executed vaulted substructions, which are so carefully finished as to indicate that the public had access to them, perhaps as an entrance to the *diazoma* or horizontal passage of the cavea. The chief wall of the stage-structure is still standing: it is 73 ft. 6 in. long, pierced symmetrically with three doors, and had decorative pilasters, columns, and entablatures of marble. Behind the wall there was a hall which may have been subdivided. The stage-structure is supported upon extensive vaults, owing to the slope of the ground.

ÆGINA (Aigina), Greece.

The Temple of Aphrodite (Venus), near the harbor, was larger than the Temple of Athena, the stylobate being about 62 ft. by 114 ft. It was Doric and hexastyle; the columns are $3\frac{3}{4}$ ft. in diameter, and 25 ft. (nearly six diameters) high. One only is now in place, though in Chandler's time two, with a piece of architrave, were still standing. They have twenty channels, and capitals almost identical with those of the Temple of Athena. The material is a friable yellowish limestone.

The Temple of Athena (Minerva) is situated near the sea, on a hill at the N. E. end of the island. It was probably not finished earlier than the first quarter of the V cent. B.C., and was formerly supposed to be that of Zeus Panhellenios. In 1811 some English and German architects—Cockerell, Foster, Linkh, and Haller—made excavations which discovered the famous Æginetan marbles, at least eleven in number, now in the Glyptothek, Munich, and restored by Thorwaldsen. They are, though archaic, among the most valuable remains of Greek sculpture. The temple was built of soft *poros* stone, covered with a thin layer of stucco; it is Doric, hexastyle, peripteral, on a stylobate of three steps, with twelve columns in each flank and two between antæ in the pronaos and opisthodomos. The stylobate is 94 ft. by 45 ft.; the cella, raised on two steps, 72 ft. by 26 ft. outside. Columns, with twenty channels, have a lower diameter of 3 ft. 2 in. and a height of 17 ft. 3 in. The columns are inclined inward toward the cella; their taper is marked and they show but little entasis. The capitals, like the mouldings and all the architectural members, are somewhat heavy in proportion. The entablature is 6 ft. 9 in. The cella is divided into three aisles by double ranges of five columns each; diameter of lower range at the base, 2 ft. 3 in.; height, 12 ft. 1 in. The two ranges of columns were separated by an architrave bearing the usual Doric tænia with its regulæ and guttæ, but no frieze. The floor pavement was covered with red stucco. The architraves bear traces of red color, the tympana were painted sky-blue, and the triglyphs in the

same color; the marble cyma bore the sea-lily ornament painted in red, blue, and yellow. The platform on which the temple stands is terraced on all sides. The spaces between the peristyle columns were closed by a grating of metal. Beneath is a cave, which may extend under the cella.

ÆSERNIA. See *Isernia*.

ÆZANI (Aizanoi), Phrygia, Asia Minor.

Ancient Jewish Temple, consisting of a great cloistered or colonnaded enclosure, similar in disposition to that of Jerusalem, and within this a shrine in the form of a small Roman peristylar temple.

Temple of Zeus Panhellenios (Jupiter of all the Greeks). The remains comprise twelve columns on the north and six on the west, standing, and a large part of the cella. The temple stood on a stylobate of five steps in the middle of a quadrilateral terrace, 520 ft. by 485 ft. surrounded by a splendid Corinthian colonnade, about 270 ft. by 190 ft., the columns of which were 17 ft. 8 in. high, by 2 ft. 2 in. through. It was Ionic, octastyle, pseudo-dipteral, with fifteen columns on each flank; its stylobate was 121 ft. by 72 ft., the cella 79 ft. by 35 ft. The cella had two composite columns between antæ at each end, and under it, reached by a stairway in the opisthodomos, is a subterranean hall or crypt 30 ft. by 50 ft.

Theatre, in the southern part of the town, in part excavated from a hill, and facing S. W. It is a Roman building, though with Greek features. The lower division of seats (sixteen tiers) up to the *diazoma* or horizontal passage survives; the seats of the upper division are gone, but the enclosing-wall and other foundations remain. The exterior diameter is 380 ft.; that of the orchestra, 128 ft.; the depth from the front of the proscenium to the back of the cavea, 178 ft.; the length of the stage-structure, 156 ft. The main wall of the stage-structure was decorated with six pairs of coupled Ionic columns supporting a rich entablature. Behind the high back wall or coping of the *diazoma* is a series of chambers separated by coupled niches; it is conjectured that these were for the *echea* or acoustic vessels described by Vitruvius. The upper border of the cavea was surrounded by a portico. The material is white marble: the foundations of the proscenium are limestone encased in marble.

AGLASOUN. See *Sagalassos*.

AGLIATE, Italy.

The Church is an ancient Lombard basilica of the Latin type, said to have been built by Anspertus, Archbishop of Milan, about 881, with nave and aisles covered with wooden roofs, the nave about 80 ft. long and 26 ft. broad, with six simple round arches on either side carried on columns of which all but that nearest the choir have moulded capitals like inverted bases with stilt-blocks. On each side the easternmost arch is of double width, giving somewhat the effect of a transept, as in S. Vincenzo ed Anastasio at Rome. This may be an early alteration. The nave ends in a raised choir with a single oblong bay covered by a barrel-vault and a round apse, and the aisles end in a similar way. Beneath the choir is a fine crypt with three aisles, separated by columns and arches into vaulted bays. The exterior is very simple, and the walls are of rude stone rubble.

To the south of the church stands a Baptistery of rude construction and design of which the plan is an irregular polygon of nine sides, from the eastern two of which projects a semicircular apse with an altar.

AGRIGENTUM. See *Girgenti*.

AGYLLA. See *Cervetri*.

AIGAI. See *Ægae*.

AIGINA. See *Ægina*.

AIN HERSHA, Syria.

Roman Temple, almost complete except the roof. It is 39 ft. by 26 ft., *in antis*, on a basement which on the west side is 7½ ft. high. The height from basement to cornice is 19 ft. The cella is sur-

rounded in the interior by a cornice, and has four Ionic columns with Attic bases engaged in its west wall. The door is beautifully ornamented.

AIZANOI. See *Ezani*.

AKRAGAS. See *Girgenti*.

AKRAIPHIAI. See *Mount Ptoön*.

ALATRI (anc. Alatrium), Italy.

The FORTIFICATIONS (pre-Roman) are of large polygonal blocks, massive and imposing. At the summit of the hill there is an oblong acropolis, about 2,000 ft. in circuit, with polygonal walls which at the S. E. angle rise to a height of 50 ft.

TUSCAN TEMPLE, the foundations of which survive at about a kilometre beyond the Porta San Pietro. The small temple was prostyle, with two columns before the antæ. The capital of one of the columns, of an uncanonical Tuscan profile, survives, having served near by as a millstone; and both column-bases of the pronaos remain in position. A posticum appears to have been added at a later date, which copied closely the dimensions and details of the pronaos.

ALBA FUCENTIA. See *Albe*.

ALBANO (anc. Albanum), Latium, Italy.

TEMPLE OF MINERVA, identified in the round building, now the Church of Sta. Maria della Rotonda, at the west angle of the prætorian camp. There are carved acanthus leaves on the door-jambs, part of a fine frieze, and some niches, which are certainly ancient.

TOMB OF ARUNS, so-called, near the city gate. It consists of a base of masonry 49 ft. square and 24 ft. high, with basement and dentil-cornice, supporting a cone of masonry 26 ft. in diameter in the middle and four smaller cones at the angles. The cones and one side of the base are now in part ruined. From the mouldings it appears, despite its superficially Etruscan character, to be of somewhat advanced Roman date.

Albano still shows many remains of the villa of Domitian, which was built there, on the ruins of that of Pompey, including those of the amphitheatre, prætorian camp, and baths about it.

ALBE (anc. Alba Fucentia).

The BASILICA OF S. PIETRO is one of the finest monuments of early Christian architecture outside of Rome. Its site was first occupied by a Pelasgic temple whose foundations, perhaps contemporary to the foundation of Rome, or anterior, are foundations of the church. The Pelasgic open-air temple was succeeded by a Roman temple, of a good imperial period and style, which was in its turn converted early in the V cent. into a Christian basilica. The cella walls and the columns of the pronaos were used, and the columns of the nave were brought from the ruins of some other pagan structure. This early church, re-



Fig. 3. Albe. S. Pietro.

stored at various times in the XI, XII, and XIII cents., is now a simple basilica with a porch, three aisles, no transept, and a single apse. Its interior measures 75 ft. by 35 ft. The width of the nave is nearly 15 ft., that of the aisles 12 ft. The sixteen columns bearing round arches that divide the nave from the aisles are fine lofty examples of Roman Corinthian in almost perfect preservation. Their great height has led to the very unusual arrangement of having no clerestory, the aisles being nearly as high as the nave, whose flat wooden roof is but little above the main arches. The result is a hall-church which must have been very effective when the walls were covered with the fine frescoes of which a number still remain. The choir was raised in the XII–XIII cents. and the front of its steps decorated with a marble choir-screen inlaid with mosaics. At the same time the present apse was built of fine stone-work, and the adjacent outer walls rebuilt in the same manner, contrasting with the original Roman brickwork toward the front, which still remains. The porch and the carved doorway with its doors of sambuco wood covered with low reliefs remain from the XI cent., although the porch and façade were remodelled during the Renaissance. (*See Fig. 3.*) [A. L. F., Jr.]

The extensive FORTIFICATION WALLS are among the most perfect examples of such ancient works in Italy. They show different epochs, the greater part being of massive but somewhat rough polygonal masonry, while the remainder consists of a facing of very careful polygonal work, with a rubble filling. There are several towers, also ruins of an amphitheatre, a theatre, baths, a basilica, temples, etc.

ALEXANDRIA-TROAS, Asia Minor.

BATHS, erroneously identified by Texier, in the Ionian Antiquities, by Durm, etc., as a gymnasium. The building, 270 ft. by 405 ft., is divided into a series of long halls on three sides, enclosing a number of smaller chambers. There was a monumental entrance in the middle of the east front. The outer walls were in large blocks of shell-limestone; the inner walls, in *opus incertum* of small stones and mortar, were clothed with thin slabs of various-colored marbles. The vaults were decorated with glass mosaics, and the pavements with pebble mosaics. In their plan these baths seem to fall between the simple Greek baths and the more elaborate Roman thermæ. The character of the masonry and ornament, resembling that of the Odeum of Herodes at Athens, seems to fix their date as the time of Hadrian.

Much of the WALLS remains, and the ruins of the city are spread over a large space. The ruins of the Roman thermæ are important, as are also those of an aqueduct built by Hadrian to bring water from Mount Ida.

ALINDA (Demirdji-Deressi), Caria, Asia Minor.

MARKET-HOUSE, on the west side of the terrace which constituted the ancient Agora. It is in plan 326 ft. by 34 ft., and had three stories, the lowest divided into a front and a rear range of chambers. The middle story was lighted by a double series of small horizontal and vertical slits cut in the wall near the ceiling, which was supported in the middle by a central range of square piers with a Doric semi-column on each side. The uppermost story, on a level with the Agora, formed a portico, open certainly toward the Agora, and perhaps on both sides. It had a central longitudinal range of unfluted columns. This building is to be compared with the similar market-house of Ægae.

THEATRE, in admirable preservation. The auditorium is practically complete; it terminates above in a passage surrounded by a plain wall. The diameter is about 225 ft. There are remains of the stage-structure, including low piers, which

appear to have supported a stage of wood.

ALMENNO, Italy.

S. TOMMASO IN LIMINE, a small but interesting Lombard church just north

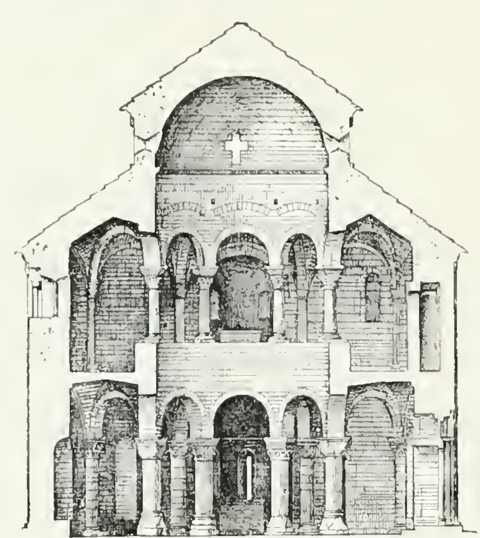


Fig. 4.—Almenno, S. Tommaso in Limine.

of Bergamo. It is circular, with a long projecting choir ending in an apse. The exterior shows a high circular aisle, above the roof of which rises the clerestory of the central division. The walls are divided by numerous slender engaged columns, ending in an arched corbel-table under the cornice and with round-headed windows between them. The interior has a central domed nave, and the aisle is in two vaulted stories, separated from it by simple round arches, resting on eight columns in each story. Authorities differ widely as to the date of this church, the local antiquaries assigning to it an origin as early as the V cent., while Osten considers it as belonging to the XI cent., and Mothes to the IX. (*See Fig. 4.*)

ALTAMURA, Italy.

The CATHEDRAL, dedicated to Sta. Maria Assunta, is an interesting XIII cent. Romanesque church about 175 ft. long, with nave and aisles leading to a transept which does not project beyond the aisle walls. The nave is divided into three compartments by grouped pilasters and columns, between one pair of which a round arch spans the nave. Of these compartments the first and third contain each two, the middle compartment three, high round arches carried on stout shafts, with well-developed foliage capitals. Above the arches is a triforium, here called the *matroneo*, or women's gallery, with round bearing arches answering to the arches of the nave, and each enclosing three narrow horseshoe arches on small shafts with very large carved capitals. Over each group is a small, round-arched clerestory window, high in the wall, under the flat nave roof. The line of nave columns is continued by a single round arch on each side spanning the transept. The west front has a central doorway of great beauty with a pointed and gabled arch springing from two columns on each side, of which the outer ones rest on the backs of lions. All the parts are enriched with sculpture of much excellence, somewhat Byzantine in feeling and with a touch of Saracenic influence. Over the doorway is a fine rose window. The church was founded by the Emperor Frederick II shortly after his coronation in 1220, and was finished about 1232. It was much altered between 1309 and 1343—to which period belong the great west doorway and the rose window over it. (*See Figs. 5 and 6.*)

AMALFI, Italy.

The CATHEDRAL (S. Andrea), founded in the middle of the IX cent., restored in the XIII cent.—when the bones of St. Andrew were brought thither—and finished in 1276, is a Gothic church with some singular features. From a vaulted porch or narthex approached by a broad and high flight of steps, and extending quite across the whole front of the church, three doorways enter the nave and aisles. The aisles were originally double on either


Fig. 5.—Altamura, Cathedral, Matroneo.

The jambs, lintel, and tympanum are decorated with rude but spirited Arabic carving. Above the porch the outline of the façade follows that of the inner aisles, but the centre is carried up in a high gable far above the nave roof, and is filled by a great picture in mosaic of Christ enthroned, with kings and the emblems of the evangelists. At the northern extremity is a square tower, surmounted by a singular round belfry, with domical roof and angle turrets. The tower dates from 1276, but was restored in 1768. (*See Fig. 7.*)

side, but the outer southern aisle has disappeared and the northern is now separated from the church, or rather is replaced by a distinct church, called S. Crocefisso. The inner aisles are separated from the nave by round arches on each side springing from square piers which in the XVIII cent. enclosed the fine ancient marble columns. The nave and aisles open into a transept with three Eastern apses. The flat ceiling is carved and gilded and decorated with paintings by Andrea d'Asti. Several interesting examples of ancient art still remain in the church, including some sarcophagi with bas-reliefs, and a noble vase of porphyry, now used as a font. A crypt extends under the whole transept with five aisles. On the north flank is a cloister with pointed arches carried on coupled columns. The west front has been entirely rebuilt since 1870 from a design by Alvino, in the early Italian Gothic style, of white, black, and red marbles, and profusely adorned with Venetian gold mosaic. The open arcaded porch or narthex above mentioned, raised on a high basement, is divided by a line of renewed columns into two transverse groined aisles. Of the three doorways opening from the porch into the church the central one is closed by a remarkable pair of bronze doors dating from 1065.


Fig. 6. Altamura Cath Porch.

AMATHA. See *Hammeh*.

AMELIA, Italy.

The CATHEDRAL is a Renaissance church, built in 1640 upon the ruins of the mediaeval church which had been burned. Its plan is a Latin cross, about 170 ft. long and 140 ft. broad across the transept. Its nave, about 42 ft. wide, without aisles, is flanked by five rectangular chapels on each side, and opens into a long, narrow transept divided into three bays, of which those at the ends are covered each by a high hemispherical dome on a drum lighted by large windows. The choir is a single oblong bay, with a flat, elliptical apse, and flanked by square sacristies. The twelve-sided bell-tower of the ancient church still stands detached on the south side of the nave.



Fig. 7.—Amalfi, Cathedral.

AMMAN (anc. Rabbath Ammon and Philadelphia), Palestine.

ODEUM, a small covered theatre just in front of the large theatre. Over a side door is a frieze sculptured with Romulus and Remus and the wolf. Between the odeum and the theatre extends a large rectangular space (agora or forum ?) bordered originally by about fifty Corinthian columns, twelve of which still stand.

ROMAN BATHS, on the right side of the brook. There is a fine apse, with two lateral apses. The high walls have richly decorated niches, and holes in the stones point to the original presence of metallic ornament. Some columns are standing, without capitals.

THEATRE, in excellent preservation, the auditorium excavated from the hill-side. There are two *diazomata* or longitudinal passages, dividing the auditorium into three sections, the lowest with fourteen, the second with sixteen, and the highest with eighteen tiers of seats. Above the highest section there is a gallery, in the middle of which is a decorated "box," with pediment and niches. The stage-structure is ruined to the foundations, but portions of a double colonnade survive, in front of it. The diameter of the theatre is not far from 360 feet.

AMRITH (anc. Marathos), Syria.

MAABED or TEMPLE, the most important of the few remaining religious struct-

ures of Phœnicia. It is virtually a miniature and simplified Egyptian temple, with its cella for the image of the divinity enclosed on three sides by upright slabs of stone. The third side was never closed, unless by a curtain. The roof is a monolithic slab with moulded edges; it projects over the open side of the tabernacle, and is hollowed in the interior in the form of a flat vault. The tabernacle stands free on a rock-hewn base. There was a court around the tabernacle, doubtless girt with a portico, but all here is completely ruined.

Phœnician "Monolithic" House, a rock-hewn dwelling, isolated by the cutting away of the rock at the back. The interior contains three rooms, separated by thin partitions left standing in the natural rock. The doors and windows are distributed irregularly.

Phœnician Tomb called the Burdj el-Bezzâk, built entirely above ground, in regular masonry of enormous blocks, some of them over 16 ft. long. It is square, with a projecting basement, and a simple heavy cornice. It was finished above with a pyramid, now thrown down. Inside are two superposed chambers, each with a narrow opening to the outside, and with niches for bodies cut in the walls, separated by partitions left in the stone.

Tomb, consisting of a square base from which rises a circular die, above which are two circular drums, each smaller than the member next below, and a crowning member of domical shape. At the four corners of the base four lions of rude design issue from the die, facing outward.

ANAGNI, Italy.

The Cathedral (St. Magnus) is a Romanesque basilica rebuilt by the Emperor Michael about 1075 and consecrated in 1167. The interior is simple; the nave and aisles, separated by arcades of round arches on piers with rude grotesque capitals, are covered by barrel-vaults, and each ends in an apse. A fine pavement of *opus Alexandrinum* covers the whole floor of the church. The exterior is interesting, the west front decorated with old bas-reliefs on each side of the simple round-arched doorway. Near the façade is a square detached bell-tower, with battering walls and two-light arched windows. The great south doorway is ruined; above it is the statue of Pope Boniface sitting on a



Fig. 8.—Ancona, Trajan's Arch.

throne. The present entrance is on the north flank. The middle one of the three eastern apses has a dwarf arcade of arches supported alternately on columns and grotesque corbels. A three-aisled crypt is under the choir, with stilted round arches on columns with shafts and capitals of various design. It is decorated with early paintings of scenes from the life of St. Magnus, whose remains were transferred hither in 1231.

ANCONA, Italy.

ARCH OF TRAJAN. The Roman remains comprise the mole built by Trajan, on which stands the beautiful triumphal arch in white marble, erected A.D. 112, in honor of that emperor, and an amphitheatre. The arch is very light and elegant in its proportions, and is in remarkably good preservation. It has a single opening with a very heavy keystone, four Corinthian semi-columns on each face, and a high panelled attic above the entablature. (*See Fig. 8.*)

The CATHEDRAL (S. Ciriaco). An XI cent. Romanesque church, situated on the height of the promontory outside the present town, on the site of an ancient temple of Venus which stood in the centre of the original Greek city. It was at first a Greek cross, and has aisles on all the four arms, the transept terminated by semi-circular apses; the east end square, probably replacing an earlier apse, and a pointed dome over the crossing, springing from a low twelve-sided tambour. All the cornices have arched corbel-tables, and the walls are divided by thin pilaster-strips and half columns. The windows, few and small, are either round-headed or circular. The west front has a fine deep projecting porch, added in the XIII cent., with several orders of columns and pointed arches in the jambs, surmounted by a gable. Of the columns the outer pair are octagonal and rest on lions. The south door is covered by a simple round-arched porch of slight projection built in 1184. Within, the nave and transept have each three round pier arches resting on columns of red Verona marble, presumed to have been those of the ancient temple; the capitals rude Ionic and Corinthian. The choir, originally of the same length as the nave and transept, but with four arches instead of three, has been prolonged by a single square compartment flanked by two chapels. All the aisles are covered with four-part vaulting. Nave, choir, and transepts are flat-ceiled. The central dome is carried by squinches on four massive piers, joined by very slightly pointed arches. The floor in both transepts, high above that of the nave, is reached by broad steps, and under each is a high crypt, of which the northern has a highly decorated chapel containing the tomb of St. Ciriacus, whose remains are preserved in a glass sarcophagus. The detached square campanile is of later date. (*See Figs. 9, 10.*)

STA. MARIA DELLA MISERICORDIA has a gorgeous Renaissance façade, and an interesting interior of pure transitional Gothic, which must date from the XIII cent. Although in ground-plan it is basilical with a nave and aisles, no projecting transept and one shallow eight-sided apse, yet in elevation it shows a resemblance to a Greek cross with central dome, thus showing the influence of S. Ciriaco. The nave proper consists of three bays, whose central compartment is covered with an oblong ribbed octagonal dome: all the rest of the compartments in the church have simple ribbed cross-vaults. The base and capital of the piers are still of a rude Lom-

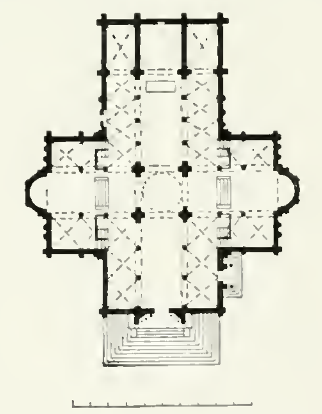


Fig. 9.—Ancona, Cathedral, plan, Scale of 100 feet.

bard type. The octopartite choir resembles that of the cathedral of Narni. [A. L. F., Jr.]

STA. MARIA DELLA PIAZZA is remark-

able for its rich façade dated 1210. This is curiously built in superposed arcades, not separated by string-courses, the columns of each arcade resting in the spandrels of that beneath. The interior consists of five bays, with round arches supported by octagonal piers built up of stone, the arch near the single apse being higher than the rest. All the compartments are covered with cross-vaults, those over the side-aisles being alone original. The transverse arches in the nave are round; in the aisles, pointed. The capitals are of simple cubic form. [A. L. F., Jr.]

ANCYRA (Angora), Asia Minor.

Column of Jovian, in the lower part of the city. The pedestal, a single block of grayish-white marble, has never had any inscription. The shaft is formed of nine drums, each one of which is cut with singular and similar horizontal flutes or mouldings, as in some Persian monuments. The capital has a Byzantine appearance; at the four angles are four palms surrounding, on each face, four medallions or shields, each one of which is pierced with four holes, probably for holding a bronze eagle. The total height is about 45 ft., that of the capital 5 ft. 3 in., of the pedestal 9 ft. 2 in.

Temple of Augustus and Rome, dedicated by Pylæmenes, son of King Amyntas of Galatia. It was changed early into a Christian church; in the XIII cent. a mosque was built on the north side by the architect Sinan. The gate of the temple was carried to Bagdad by Haroun al Rashid. The remains consist of the lateral walls of the cella, with antæ terminated by pilasters, and the front wall with its doorway. The white marble temple was Corinthian, hexastyle, peripteral, but the peristyle is gone. The capitals of the pilasters are formed of a well-sculptured winged Victory, amid acanthus foliage, and the frieze adorned with a running acanthus ornament. The door of the cella has a cap on marble consoles. On the interior of the pronaos wall is the celebrated inscription called the *Monumentum Ancyranum*, containing in both Greek and Latin the political testament of Augustus, or the record of his acts, from the emperor's will.



Fig. 10. Ancona, Cathedral.

ANDRIA, Italy.

The Cathedral, dating originally from the middle of the XI cent. has been greatly changed by repeated restorations. It has a nave and aisles of nearly equal breadth, separated by arcades of seven arches, once pointed, now round, and opening by pointed arches into the broad rectangular transept, which does not project beyond the aisle walls, and in which the straight eastern wall shows traces of three apses which have now disappeared. About 1228 a line of seven chapels was added to each aisle.

ANDROS, Cyclades, Greece.

Tower or donjon, dating from about the time of Epaminondas, in the locality called Pyrgos, close to the ruins of the ancient city of Andros. The basement story is vaulted by corbelling out; there are five stories above this. The door and windows contract upward. The tower, 30 ft. in diameter, survives to a height of nearly 70 ft. The masonry of the basement is polygonal with horizontal beds; of the superstructure, good Hellenic with many of the vertical joints inclined. In some of the stories the stairs remain.

ANGORA. See *Ancyra*.

ANSEDONIA (anc. Cosa), Italy.

The ancient Etruscan coast city was abandoned in the V cent. Its Walls, forming an irregular quadrangle over a mile in circumference, are admirably preserved. They are built of enormous blocks of limestone in an irregular polygonal style, but with remarkably exact joints, and the outer face finished perfectly smooth. They are strengthened with projecting square towers. There are three double gates, not arched.

ANTIPHELLOS, Lycia, Asia Minor.

Necropolis of rock-cut tombs, whose façades appear in the face of the cliff. These façades imitate exactly a construction framed in square wooden beams, with panelled doors and windows and ceilings of round poles laid closely side by side. Even the heads are shown of the tree-nails used to secure the dove-tailed and mortised beams. Some of the roofs are flat, others gabled in the form of a Greek pediment. The forms evidently reproduce in all their details the exteriors of the wooden dwellings of the natives, and this imitation is in some cases extended to the interior chambers.

ANXANUM. See *Lanciano*.

AOSTA (anc. Augusta Prætoria), Italy.

The Triumphal Arch is a massive structure about 40 ft. by 85 ft., pierced by a single arch 30 ft. wide and nearly 40 ft. high. It is surrounded by ten Corinthian columns, standing on a high stylobate and supporting a Doric entablature. An order of stumpy composite



Fig. 11.—Aosta, Arch of Augustus.

pilasters bears on its entablature the wide archivolt. The attic which probably crowned it has disappeared, and with it the inscription, but the arch is believed to have been built by Terentius Varro to the honor of Augustus, in commemoration of his victory over the Salassi in 25 B.C. (*See Fig. 11.*)

The Cathedral (S. Gratus and S. Jocundus) is a Romanesque church of doubtful date, variously assigned to the XI and XIV cents., with a Renaissance façade which was added in 1522. The broad apse is flanked by two massive square towers, evidently of early date, and on the north side is a cloister dating from 1450 with round arches on grouped piers. The interior is simple and severe, with nave and aisles divided by arcades whose round arches spring from plain square piers. The choir has a fine mosaic pavement and inlaid stalls dating from the

end of the xv cent. An ancient crypt of Romanesque character with columns fitted with classic capitals lies under the choir.

St. Ours is a very old church, which has been dated back to the viii cent. The interior is modernized, but has some handsome stalls; the front shows a late Gothic doorway with a gable over it. The Romanesque cloister is interesting. It has single columns of black marble, with capitals rudely carved in figure-subjects from Bible history, which carry rough round arches, and a roof covered with stone. The high square bell-tower, standing apart, is also late Romanesque, with a more recent pyramidal roof. Near by is another tower, of later date, octagonal, with broad-windowed belfry story, deep corbelled cornice and spire-like roof.

Porta Prætoria, the chief gate of the ancient Roman city, now called the Porta della Trinità. The gate has a triple arch in each face, the middle arch being 27 ft. wide, those on the sides 7½ ft. The distance between the two faces is 40 ft.—the longest known in such Roman constructions. Over the arches there was a frieze and consoles, which remain in part.

The Roman Walls, enclosing a rectangular area 790 by 620 yds., remain throughout their extent, together with some of their square towers. Several of these were in course of time altered into mediæval fortresses. The facing is of hewn stones, and has been in part torn away as building material. There is an impressive piece of the straight back wall of a theatre over 70 ft. high, in four stories, with windows, and scanty remains of an amphitheatre, in plan 282 ft. by 242 ft. Eight arcades of the exterior facing remain with Doric semi-columns. Without the town there is a fine Roman bridge of a single arch of large stones.

APAMEIA (Kalat el-Mudik), Syria.

Portions remain of the ancient walls, and of the chief gate on the north. From this gate a street 140 ft. wide, of about 1,800 columns, 33 ft. high, ran southward; some of them remain standing; a great number lie as they have been overthrown by earthquakes. Back of the colonnades were walls with niches; a number of the portals still stand.

APHRODISIAS, Caria, Asia Minor.

The Stadium, in the N. W. part of the city, forms a part of the walls, like the Amphitheatrum Castrense in Rome. It is semicircular at each end and 920 ft. long by 270 ft. wide. The arena, 100 ft. by 750 ft., is surrounded by twenty-six tiers of seats, divided on each side into thirty *cunei* or sections, separated by flights of steps. Above the seats was a gallery 18 ft. wide, covered by an arcaded portico, numerous fragments of which still remain. The grand entrances were through arched gateways at each extremity.

Temple of Aphrodite (Venus), probably of Roman date: the town enjoyed the protection of the Cæsars, who claimed descent from Venus. The temple is one of the best preserved in Asia Minor; sixteen of its columns are standing, and bases of others are in place. It stood in the middle of an enclosure 370 ft. by 190 ft., adorned on the interior with coupled Corinthian columns 19 ft. high, supporting pediments alternately curved and triangular. Between the columns were niches with pilasters. The temple was Ionic, octastyle, pseudodipteral, with fifteen columns in each flank; the ground-plan is 119 ft. by 60 ft.; the cella is destroyed. It was changed into a church, the columns of the front being removed and ranged with those on the sides, and external walls built outside of the columns so as to form a nave with aisles, and an apse.

AQUÆ CUTILLÆ. See *Cittaducale*.

AQUILA, Italy.

S. Bernardino. A xiii cent. Gothic church, many times rebuilt, of which the interior was partly destroyed by the earthquake of 1703, and much changed in the rebuilding. The aisles are vaulted;

the nave has a flat ceiling, and is bordered by arcades of five arches each on columns. The crossing is covered by a dome and at the east end is a central apse. The Renaissance west front by Cola dell' Amatrice, dating from 1525, is the most conspicuous feature of the church.

STA. MARIA IN COLLEMAGGIO. A remarkable Romanesque church of the XIII cent., which has been much injured by earthquakes and degraded by restorations, the interior being entirely modernized. The west front, square like others in Aquila, retains most of its original features. It is about 100 ft. broad, in two stories, separated by a modillioned cornice of classic form, with pilaster-strips at each angle. The first story has three round-arched doorways with square openings. In the second story a window over the central doorway, large and rich, is



Fig. 12.—Aquila, S. M. di Collemaggio.

the only opening. The whole wall is faced with small blocks of white and red marble, forming a regular tile pattern, and the front is finished with a horizontal cornice of Renaissance mouldings. At the south angle of the west front is a low octagonal bell-tower with heavy macchicolated cornice. The church was founded in 1287, in conjunction with a Benedictine monastery, and was occupied in 1294, in which year Pope Celestine V. was here crowned. (*See Fig. 12.*)

AQUILEJA, Venetia, Italy.

The CATHEDRAL, a great basilica, substantially of the XI cent., but much altered later. It has a nave and aisles, transept, and three eastern apses. The nave is about 40 ft. wide, and the inside width across the aisles 85 ft., the whole length about 230 ft. The pillars which carry the fourteen pointed arches in each arcade are probably Roman, varying in diameter and height; but their capitals seem to date from the rebuilding of the church in the first half of the XI cent. by the patriarch Poppo. The pointed arches are probably due to a restoration after an earthquake in the second half of the XIV cent. (1365–81). The ceiling is of wood and cinquefoiled in cross section, like some in Venice and Padua. The choir is raised over a crypt which, like the transept, is probably of the XI century. It has a handsome balustraded podium, reached by a double flight of steps, which encloses a rich pulpit, all of early Renaissance design, and giving fine effect to an otherwise bare church. At the middle of the principal apse is the patriarch's throne of inlaid marble, probably reconstructed in the XIV cent. out of an older Byzantine example. (*See Fig. 13.*)

In front an open porch of Lombard architecture connects with an old vaulted building known as the CHIESA DEI PAGANI. This has three bays of plain cross-vaulting and niches in the side walls. It leads to an old ruined baptistery, octagonal in plan, and containing a tank for immersion, apparently hexagonal, and surrounded by an arcade connected with the outer wall by cross arches. The high campanile, begun by the patri-

arch Poppo, and finished in the XIV or XV cent., is a landmark in the country. Inside the church in the north aisle is a

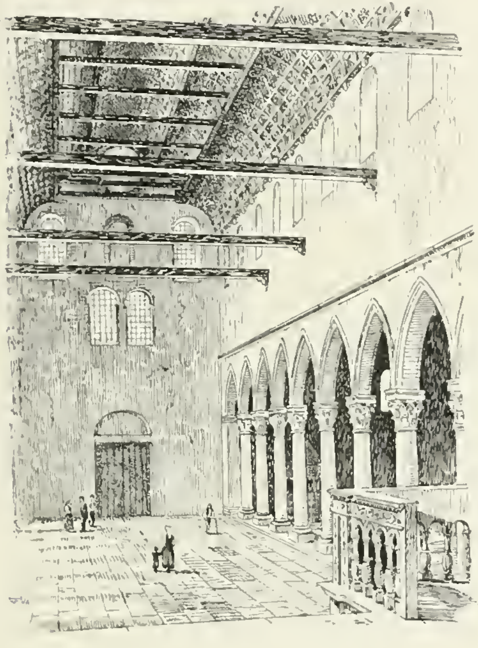


Fig 13.—Aquileja, Cathedral.

curious little detached round building, of which the purpose is forgotten. It has a west door, a colonnaded attic, and a pointed roof.

ARAK EL-MONYEH, Palestine.

ROCK-CHAMBERS, excavated in the soft limestone. The entrance is by a large door of good workmanship, cut in the rock. This leads into a series of large and lofty chambers of beehive shape, one of which is nearly 100 ft. in diameter. The walls are ornamented with sculptured cornices, and with shallow niches in parallel rows. It is probable that these curious works, with the others like them in this region, date back to the primitive inhabitants, prior to the Edomite occupation. There are some Cufic inscriptions cut in the rock.

ARBE, Dalmatia.

CAMPANILE, or bell-tower, one of the finest in Dalmatia. It stands conspicuously apart from the cathedral, near the edge of a cliff. It is 20 ft. square and 90 ft. high to its parapet, is built in five stories, with coupled windows, expanding from story to story in Romanesque fashion, and a fine belfry-stage with four-light openings and coupled shafts, the whole crowned with an arcaded parapet, and above this an octagonal spire. Eitelberger finds mention of it in 1212.

The CATHEDRAL, a three-aisled basilica, had originally three apses, of which the southern has disappeared; the middle one, round within, is octagonal without. The nave is of six round-arched bays, carried on round shafts with Byzantine capitals and stilt-blocks above them as in the Ravenna churches. The interior is considerably modernized. It contains a remarkable hexagonal baldacchino or ciborium, Byzantine in style, richly ornamented, and carried on columns of cipollino. The carved stalls are handsome and bear date 1445. The church as it stands is probably due to the rebuilding of 1287, which is recorded in an inscription.

S. GIOVANNI BATTISTA, now ruined, was a Benedictine monastic church — an aisled basilica of eight bays. The east end, which alone still stands, is a singular departure from Dalmatian or Byzantine ways of building. It has a round apse, and an ambulatory about it which is covered with barrel-vaults, resting on cross arches, and expanding outward to suit the radiating bays.

ARBELA (Irbid), Galilee, Palestine.

CAVERNS, fortified by Josephus in the I cent., on the south side of the gorge of Wady el-Hamâm. A broad flight of steps at the top of a steep slope leads to the caverns, which are in several tiers connected by winding stairs. Many galleries, cisterns, and chambers are wholly artificial and of excellent workmanship. The mouths of the caverns are closed by loopholed walls. The chief entrance is sur-

mounted by an excellent relief of two lions. Under Herod the Great these caverns were a stronghold of brigands.

ARBONA. See *Sta. Maria d'Arbona.*

AREZZO, Italy.

The BADIA. A Renaissance church, attached to the Monastery of the Cassinensi and dating from about 1550. The design is attributed to Vasari. Its plan is a rectangle, about 75 ft. by 165 ft., with five square bays, separated by transverse round arches and covered alternately by barrel-vaults and round domes. The easternmost bay forms the choir and is enclosed by solid walls, the others open into the aisles—the domed bays by high arches springing from square pilasters, the others by lower openings in the form of a triumphal arch on small Doric columns.

The CATHEDRAL (S. Pietro). An interesting example of the Gothic style of North Italy. Its exterior is unimportant, and the façade, in which is a fine rose window with good painted glass, was never completed. Its interior is divided into a long nave of six bays and two narrow aisles, with a choir as wide as the nave, ending in a half octagon, but no transept. The nave-piers are composite, bearing pointed arches and faced with vaulting shafts. Over each arch the wall is pierced with a round window filled with good glass of the XVI cent. by a French artist. The church itself dates from the later half of the XIII cent., having replaced an older building which was pulled down in 1277. The high altar has been ascribed, without much reason, to Giovanni Pisano.

The FRATERNITÀ DELLA MISERICORDIA has a façade on the Piazza Vasari which is a picturesque example of transitional architecture. The lower story is characteristically Gothic, with a round-arched door between two pointed windows, their splayed jambs beset with slender columns, straight and twisted, and profuse foliage. The second story, Renaissance, is decorated with niches and sculpture in the intervals of an order of delicate pilasters. Above this a picturesque wooden loggia is corbelled out under a boldly projecting roof, from which rises an ugly triple bell-cote of later date. Vasari says that the façade was the work of Niccolo di Piero in 1383, a date which is too early for anything but the lower story. On the adjoining side of the piazza is the loggia, designed by Vasari. (*See Fig. 14.*)



Fig. 14.—Arezzo, Sta. Maria della Pieve and Fraternità.

STA. MARIA ANNUNZIATA, known also as the Madonna delle Lagrime. A Renaissance church of plain brick exterior, begun about 1460 by Bartolloneo della Gatta, and finished by Antonio San Gallo. Its plan is a rectangle, about 85 ft. broad and 165 ft. long, of which length about 30 ft. is given to a closed porch or vesti-

bule divided by Corinthian colonnades into three transverse bays. Round arches from the three bays enter the nave and aisles, which are separated by arcades of three round arches on each side, springing in Roman style from square piers faced with Corinthian pilasters with an entablature, above which is a clerestory with three round-arched windows, and a cornice from which springs the barrel-vault of the nave. The aisles are divided by transverse arches into square bays, each with an altar recess. The transept arms and choir are barrel-vaulted: the crossing is covered by a hemispherical dome.

Sta. Maria delle Grazie is a small Gothic building without aisles, about 30 ft. wide and 70 ft. long, divided into two square bays covered by groined vaults, and an octagonal apse. A graceful early Renaissance portico ascribed to Benedetto da Majano is swung across the west front, composed of an open arcade of round arches on Corinthian columns with blocks of entablature, with a whole entablature above, of which the frieze, as well as the spandrils of the arches, is richly decorated with bas-reliefs. A raised terrace with balustrade surrounds the church on three sides.

Sta. Maria della Pieve. An ancient church of somewhat uncertain style, said to date originally from the VII cent., but rebuilt in the XIII cent. Its west front is perhaps unique, and little like a church. It consists of four stories with a horizontal cornice. The first story is an arcade of five round arches with doors in the middle and at the ends. The other three stories consist of open galleries with columns, the second and third being arcades, the fourth a mere stockade of columns. The columns are round, polygonal, twisted, some classical, some Byzantine, some Gothic, the capitals and bases evidently collected from the ruins of older buildings, and used without regard for uniformity of size or design. At the angle of this singular front is a very high square campanile, with five similar stories of two-light semicircular windows. The east end abuts on a picturesque square, and presents a central apse in three stages: the second with an open gallery of tall round arches on columns, the third a gallery of slender columns with square lintels. The interior has a nave and side aisles divided into four bays; plain round columns with high foliage capitals and square plinths, carrying pointed arches; transepts which do not project beyond the aisle walls; a choir of two bays with round arches and an apse; and a circular lantern above the crossing, with an arcade under the cornice. The choir has a triforium of square openings with columns. The roofs are all of wood, except those of the choir aisles, which are vaulted. The aisles are lighted by small single-light windows high in the wall. The apse is thought to have undergone little alteration since the end of the X cent., but the greater part of the church was rebuilt about 1216 by Marchionni, a local architect. The campanile dates from 1330. (*See Fig. 14.*)

There are remains of a Roman Amphitheatre in the garden of the church of S. Bernardo. The walls are of reticulated work.

ARGOS, Greece.

Heræum, or sanctuary of Hera, one of the most noted sanctuaries of Greece. The sanctuary occupied three terraces, on Mt. Euboia, about two miles from Mycenæ, and was undoubtedly of Mycenæan foundation. Besides the Temple of Hera, it contained stoas, lodgings for temple-servants, and other structures. The old Temple of Hera built, in part at least, of unburnt brick, occupied the highest terrace. It was burned in 423 B.C., and was rebuilt by the architect Eupolemos on the middle terrace. The latest excavations, begun in 1892 by the American School at Athens, are still (1894) incomplete. The new temple, Doric, hexastyle, had twelve columns on the flanks, and a cella with

pronaos and epinaos. In the interior of the cella were two ranges of five columns. The exterior dimensions of the foundations are 65½ ft. by 130 ft., making the temple somewhat larger than the so-called Theseum at Athens; the pronaos was 22 ft. wide and 15 ft. deep. The width of the portico in front of the pronaos was from 10 ft. to 13 ft., on the flanks 4 ft. less, and in the rear probably about 7 ft. more. One peristyle capital has been found. It has twenty channels, and the curve of the echinus is very graceful. Several interesting pieces of sculpture have been found, among them a fine head of about life-size and Polycletan type, which has been identified as a Hera. A very large and valuable find has been made of archaic terra-cottas and Mycenaean pottery. In the newer temple was placed the colossal chryselephantine statue of Hera by Polycletus, one of the famous works of antiquity.

THEATRE, on the east side of city, at south foot of the Acropolis. The seats are mostly excavated from the solid rock; the ends of the *cavea*, as restored by the Romans, were formed of large masses of rude stones and mortar, faced with regular masonry, but are now shapeless heaps of rubbish. The excavated part shows sixty-two surviving tiers of seats separated by two precinctions or *diazomata* into three ranges. Greater diameter 450 ft., orchestra 200 ft.; seating capacity 15,000 to 20,000. The excavations of 1891 disclosed remains of a Roman *logeion* or stage. An underground passage leads from behind the proscenium to the orchestra, as at Eretria, Sicyon, Magnesia, and Tralles.

ARICCIA (La Riccia), Italy.

ANCIENT CAUSEWAY, by which the Via Appia crosses the Vallariccia. It is a truly impressive work, 700 ft. long and about 40 ft. high where the valley is deepest. It is built of excellent ashlar in *peperino*, and is traversed by three archways for the flow of water. The width is about 40 ft.

STA. MARIA ASSUNTA. A Renaissance church built by Alexander VII. in 1664 from the designs of Bernini. Its plan is a circle with a projecting arcaded portico covered by a gable and flanked by two wings faced with coupled columns. On the interior the wall surface has an order of Corinthian pilasters with arches in the intervals, above which is a dome decorated with reliefs by Antonio Raggi.

ARIMINUM. See *Rimini*.

ARPINO (anc. Arpinum), Italy.

WALLS. The Cyclopean fortification-walls of the citadel, in large irregular blocks, are among the most remarkable extant specimens of this construction in Italy. In the stretch of wall descending from the citadel there is a gate about 20 ft. wide, closed in by corbelling the superimposed courses, and cutting the opening left to the shape of a pointed arch. This gate is almost identical with the gate at Thoricus in Attica, but is larger. It is now called the Porta dell' Arco. A Roman arch of fine construction now serves as one gate of the city.

ARRETIUM. See *Arezzo*.

ARSAGO, Italy.

S. VITTORIO, the ancient church, is a simple brick basilica with nave and aisles separated by alternate columns and square piers, with round arches, and a high clerestory. Nave and aisles are roofed with wood and each ends in an eastern apse. The whole design and construction are extremely simple. The Baptistery stands directly in front of the western façade of the church, with a central octagon about 23 ft. in diameter, enclosed by two stories of round-arched arcades with columns. The arches of the first story open into barrel-vaulted niches, except in the case of the eastern niche, which is round and has a semidome. In the second story is a surrounding gallery, vaulted in trapezoidal bays, and the clerestory wall is carried up as a sixteen-sided

polygon covered by a full-centred dome, also with sixteen sides. The exterior is simple. Small coupled windows light the upper gallery, and arched corbel-tables finish all the eaves, and the roofs are of stone. The clerestory appears as an arcade of sixteen round arches. The date of the building is unknown.

ASCOLI (anc. Asculum), Italy.

The CATHEDRAL of S. Emidio, built of travertine. The nave and aisles date, according to an inscription, from 1481, but the greater part of the church, including the Renaissance façade, attributed to Nicola Filotesio, better known as Cola dell' Amatrice, is of the XVI cent. This façade is rigidly symmetrical, the angles and the lines of the nave piers marked by flat pilasters with engaged three-quarter Corinthian columns carrying an entablature and balustrade, which finishes the front. In the central division is a great doorway with small grouped windows above, and in each side a round niche and a square panel. The two towers are, however, of the early church. One is unfinished. The crossing is covered by a dome. The nave and aisles are simple and heavy, the arcades resting on plain square piers. The most interesting feature of the church is the crypt, which extends under the choir and transept, and is divided by small columns and arches into square groined bays. The columns of granite and marble are disposed in eleven rows lengthwise of the church: their cubic capitals are rudely ornamented.

S. FRANCESCO. A Gothic church, perhaps of the XIV cent., about 200 ft. long and 80 ft. wide, the nave and aisles of vaulted bays separated by five octagonal piers on each side, with pointed arches. There is no clerestory, the aisles being nearly as high as the nave. The crossing is covered by an octagonal dome carried on four pointed arches, with squinches in the angles. The whole transept is raised five steps above the nave, and only divided by single broad-pointed arches in the line of the nave arcades into three vaulted bays. It has two vaulted semicircular apses on each end and three on the east wall, rising as high as the walls. The square west front has a pointed doorway and three square-headed windows above. The flanks are divided by slender, flat pilaster-strips, with narrow pointed windows between. The southern porch in two stories has a pointed arched opening below, and above is a Renaissance niche with a statue of Pope Julius II. The eastern apses are flanked by two high stone turrets with spire roofs. On the north flank is a cloister with groined corridors and pointed arches.

S. GIOVANNI BATTISTA is a small baptistery—an octagon rising out of a square, and roofed with a high octagonal dome and stone lantern. The corners are occupied by niches, and covered externally by broach roofs. There are plain doorways on two sides, and above, in each face, is a blind triple arcade, on slender engaged shafts. It was probably an ancient Roman building.

There are important remains of the ancient WALLS, with a bridge, and a noteworthy gate on the west side of the town. There are also ruins of a theatre and an amphitheatre. The cathedral stands on the foundation, still recognizable, of an ancient temple, said to be of Hercules.

ASIN KALESSI. See *Iasos*.

ASPENDOS, Pamphylia, Asia Minor.

ROMAN AQUEDUCT, crossing the plain on a long series of arches, much of which survives. It presents a noteworthy feature in the interruption of the course by two lofty siphons, supported on curious combinations of arches of different heights, with tower-like structures in the middle to afford means of ascent. The object of these siphons may have been to break the swiftness of a descending current.

THEATRE, the best preserved of ancient theatres, and the finest in Asia Minor, nothing being wanting but the columns

and roof of the stage-structure. It was built during the reigns of Antoninus Pius and Lucius Verus, by the architect Zeno. and eighteen in the upper. There is a gallery above the cavea, with an arcade of fifty-three arches. Behind the stage is a

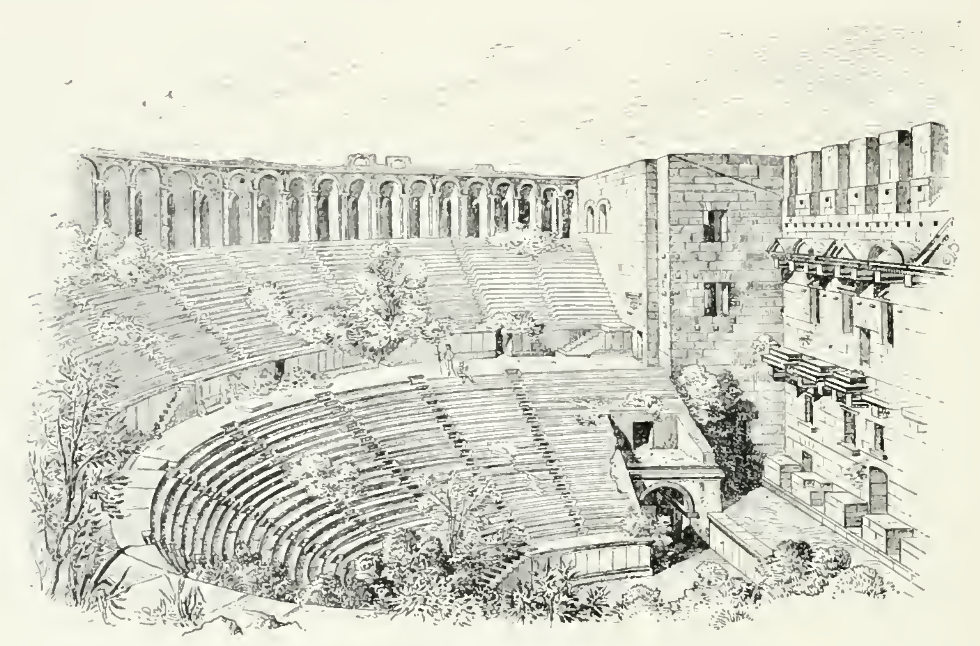


Fig. 15 — Aspendos. Theatre.

The exterior diameter is 360 ft., orchestra 85 ft., depth from inner façade of stage-structure to back wall of cavea, 212 ft. The massive castle-like outer façade of the stage-building, of large blocks of breccia, with rough-hewn faces, has its chief door, with a projecting porch, in the middle, and three superimposed ranges of windows above. At each end of the stage-building a wing projects inward, with a door leading upon the stage, and communication from without by a vaulted passage with the orchestra. The inner façade of the stage-building has five doors, and was decorated by two ranges of coupled columns or pedestals, the lower range Ionic, the upper Corinthian. All the interior decorations were of white marble. The seats are all intact, and the cavea is divided horizontally by a single precinction: there are twenty-one tiers in the lower division. large hall, above which are two galleries; at each end of the hall is a stair leading to the upper stories, in which are several rooms with painted walls. (*See Fig. 15.*)

ASSISI (anc. Assisium), Italy.

The CATHEDRAL, dedicated to S. Rufo, or Rufino, martyr, of A.D. 236, is an early Gothic church, founded before 1150, without transept, with nave and aisles of five bays, those of the aisles square and groined, those of the nave oblong, with barrel vaults crossed by transverse arches. At the east end is a large, octagon-domed choir, a square chapel with round apse opening from its eastern side. A large chapel dedicated to the Holy Sacrament opens from the west end of the south aisle. The whole interior was modernized in the XVI cent. by Galeazzo Alessi. The west front is in two stages, covered by a high plain gable enclosing a blank-pointed arch. The pan-

elled lower stage has three round-arched doorways with reliefs in the tympana. A blind arcade of small round arches separates it from the second story. The campanile is square, with a plain wall, ending in two stories of small, round-arched openings. Under the church is a crypt, believed to be as old as 1028.

S. FRANCESCO (St. Francis). One of the most interesting churches in Italy, and perhaps that in which the Gothic spirit may be said to have most completely governed the design, and in which flying buttresses—a very unusual feature in Italian architecture—were used to meet the thrust of the vaults. It consists of two churches, one above another, 250 ft. long and 160 ft. across the transept, rising from the steep hillside at the top of which the town is built. The upper church has a simple front with a single gable of medium pitch, a deep-splayed doorway of two pointed and cusped arches, under an enclosing arch, and a rich rose window with fine tracery. In the gable is a smaller circular window, without tracery. This front is a mask, having no relation to the interior disposition of the church. On the south side rises a square campanile in four stages, the upper stage being a plain open belfry. Within, the upper church is a long Latin cross, consisting of a nave, without side-aisles, about 36 ft. wide and 60 ft. high, ending in a choir with a round apse of equal width, and a transept of a single square bay on each side. The walls of the nave are broken by grouped shafts with foliated capitals into four square bays, in each of which is a narrow pointed two-light window with very early painted glass. The transepts have grouped windows with four pointed openings. Nave and transept are vaulted, and the thrust of the nave vault is met by turret-like buttresses on the outside of the clerestory, and flying buttresses. Walls and vaults are covered with frescoes of the earliest period of Italian art, still in tolerably good preservation.

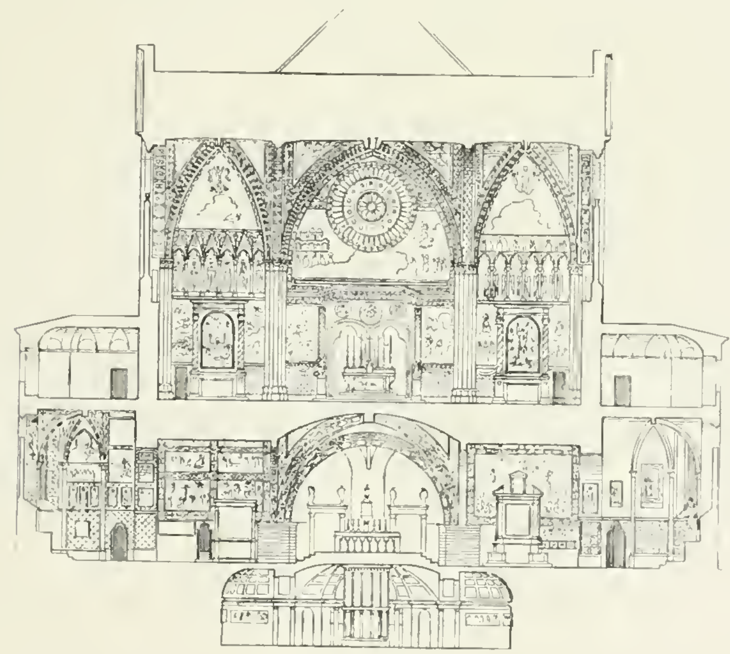


Fig. 16.—Assisi, S. Francesco.

some of them attributed to Cimabue. The side walls are thinned at a point just below the spring of the vault, giving room for a narrow passage from end to end of the church. The choir is surrounded by a range of stalls by Sansovino (1501), with gabled canopies of late style. (*See Fig. 16*, Section.)

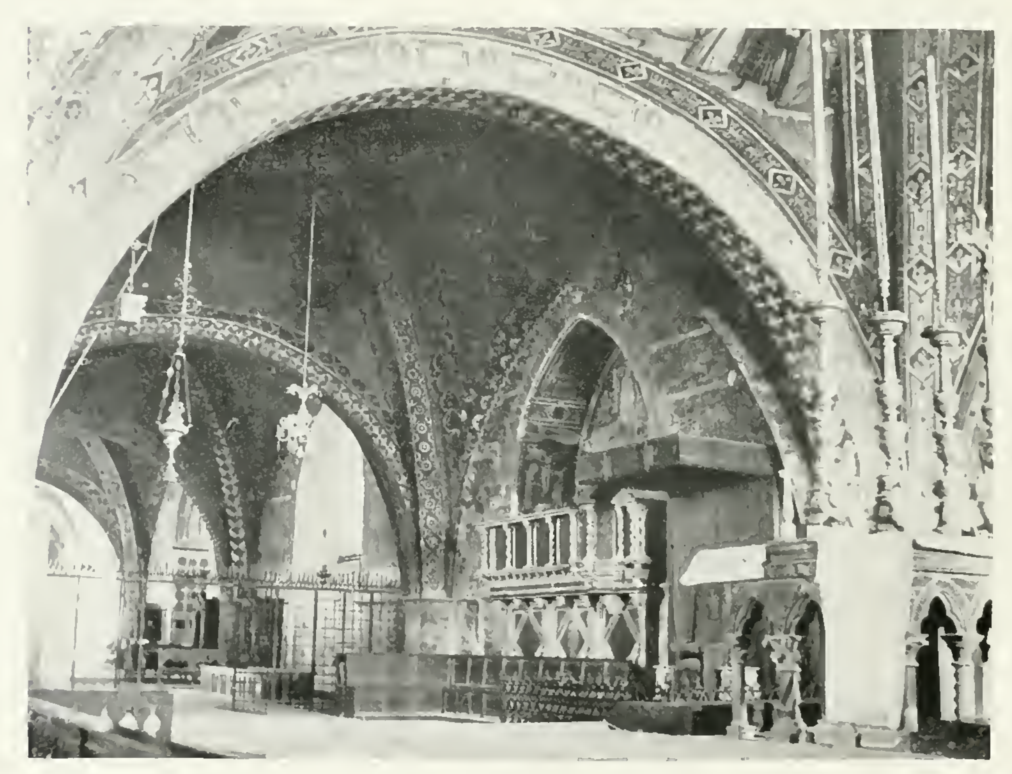


Fig. 17—Assisi, S. Francesco, Lower Church.

The terrace before the church is bounded by a retaining wall, at the foot of which is a lower terrace, from which the lower church is entered by a richly decorated Gothic doorway under a projecting round-arched porch, opening into a long vestibule or narthex across the front. Its plan is substantially the same, with the addition of a narthex crossing the front and a line of chapels on either side the nave. The vaults are low, the windows small, the interior dark. At the end of each transept is a small polygonal chapel; a similar chapel opens from the south end of the narthex. These chapels, as also the north aisle and perhaps the tower on the south side, were built later by Filippo di Campello. As in the upper church, the walls and vaults are covered with frescoes by the early Italian masters, including Giotto, whose paintings on the vault over the high altar (which stands over the spot where the supposed body of St. Francis was discovered, in 1818), representing the glorification of the saint, and the virtues of poverty, chastity, and obedience, are esteemed among the finest of his works. After this discovery, an ornate crypt was constructed about the spot, extending under the nave and choir, in the form of a cross, 63

ft. wide and 108 ft. long, in the Doric style. The building of these churches began in 1228. The lower church was finished in four years; the upper was dedicated by Pope Innocent IV. in 1253. The first architect was a German, Jacob of Meran, in the Tyrol. He was followed by Filippo di Campello, who appears to have been a monk attached to the convent of St. Francis at Assisi. On account of its position the church fronts eastward toward the town; it overhangs the western declivity. (*See Fig. 17.*)

CONVENT OF S. FRANCESCO. A vast and irregular mass of buildings surrounding the church on the south and west, and built up from the descending hillside on a basement of tall round arches. The buildings are partially surrounded by an open vaulted arcade, and enclose two cloisters. A larger court lies to the southeast of the church, enclosed by open arcades, and connected by a staircase with the terrace from which the upper church is entered. The buildings of the convent grew gradually about the church, and the earlier portions are nearly contemporary with it.

STA. MARIA DEGLI ANGELI. A Renaissance church, built outside the town by Pope Pius V. about 1569, to replace a smaller church of the XIII cent. which had become too small for the increasing crowds of pilgrims who gathered every year at the festival of St. Francis. The church is of great size, its plan being a rectangle about 185 ft. wide and 375 ft. long. The nave, nearly 60 ft. wide, is covered by a barrel vault and separated by five round arches on each side from the aisles, which are in square domed bays, from each of which opens a square chapel. The nave and aisles open by round arches into the transept, which is barrel-vaulted like the nave, while the crossing is covered by a very high dome 66 ft. in diameter, raised on a drum encircled within and without by an order of coupled Corinthian pilasters. From the crossing opens a barrel-vaulted choir with a round apse. Under the great dome stands the *Porziuncula*, so called, the oratory or dwelling of St. Francis, in the form of a small chape

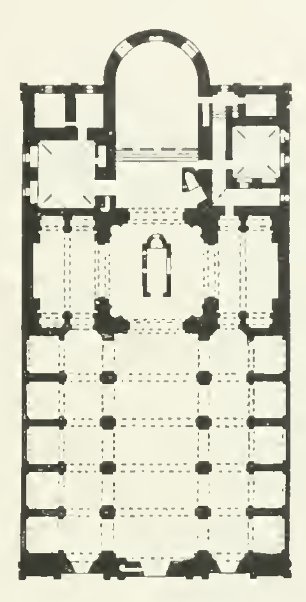


Fig 18.—Assisi S M degli Angeli.

about 20 ft. by 37 ft., with a gabled roof, and a round apse at the east. The choir is flanked by two rather low square towers with whimsical belfries. The design of the church is believed to be by Vignola, but the name of Galeazzo Alessi is also connected with it. The church was much damaged by repeated earthquakes in 1831–32, but was restored in 1840. (*See Fig. 18.*)

TEMPLE. The hexastyle portico of a Roman temple of Minerva, with its pediment, survives in good preservation, with beautiful fluted Corinthian columns of travertine. It serves now for the church of Sta. Maria della Minerva. It is of the time of Augustus, and is the best preserved temple-front in Italy, elegant in proportions and details. The cella, more or less altered, forms the body of the church.

ASSOS (modern Behram), Asia Minor.

BATHS, the most purely Greek example

known, on the terrace next below the agora. The lowest story comprised thirteen chambers, each with a basin and a reservoir for water. The floors were cemented, and the chambers encrusted with marble. In front, lower down the slope, were Roman baths.

Bouleuterion, or Senate House. It was a large square building with a portico of five columns in front, the ceiling supported upon four columns, widely spaced. In front of it there is a rostrum for public speaking.

Bridge, one of the very few surviving Greek bridges, crossing the river Satnioeis (modern Tongla), on the Alexandria Troas road. A number of the piers survive, of elongated diamond shape, 11 ft. 10 in. long, in large blocks carefully fitted together with joggles, better to resist the current. They stand about 10 ft. from centre to centre. The platform of the bridge was formed of four lintels, side by side, bonded together by swallow-tailed wooden dowels. The lintels remain upon three of the piers.

Fortification Walls, among the most perfect and instructive examples of Greek works of this class. They can be followed along the greater part of their extent of about two miles, and in many places are practically perfect and rise to a height of 60 ft. The latest walls, built by Lysimachos in the iv cent. b.c., are in rectangular blocks closely jointed. In some places polygonal walls are enclosed in this regular masonry. The walls seem to be of stone throughout. In one of the towers a true vault occurs; but in some of the gates round or pointed arches are cut from horizontal courses. Other gates have their sides corbelled out to receive the lintel. The chief gateway, on the western side, on the ancient road to Alexandria Troas, is flanked by great square towers.

Gymnasium, a rectangular walled enclosure of considerable extent, with porticoes on at least two sides, and a projecting apse, polygonal on the exterior and semicircular within, near the eastern angle of the wall. Next the apse, and belonging to a building connected with it, is an elaborate and careful marble mosaic, in colors, including yellow, red, blue, white, and orange. It covered at least 300 square yards. The building was a Byzantine basilica of early date.

Heroön or chapel, at the western end of the baths, containing the sarcophagi of three heroes—Callisthenes, Aristias, and Callisthenes. On the lintel are inscribed the thanks of the people to the heroes. The little building was Doric, prostyle, tetrastyle, with three steps.

Necropolis, extending beneath the walls for a long distance along the road to Alexandria Troas, outside of the principal gate. Most of the tombs are arranged along the terraces, between the walls and road. Many are sculptured sarcophagi of graceful proportions; others are architecturally disposed vaults of some size, with benches carried around their walls; still others are built-up mausolea. The tombs range in date from early Greek days to the late Roman. It is interesting to note that the Assian stone—*lapis Assius*—was much sought after in antiquity for purposes of burial, and that to the supposed property of this stone of consuming the flesh of the body, is due the word *sarcophagus* (flesh-eating), as applied to a stone chest to receive a dead body.

Stoa, fronting on the agora terrace, on the southern slope of the Acropolis. It was 327 ft. long and two stories high. The lower order was Doric, resting on four steps. The interior range of columns was very widely spaced, showing that all the ceilings were in wood, and holes for the ends of the ceiling-beams remain.

Temple (of Athena?), on the Acropolis. It was Doric, hexastyle, peripteral, and had thirteen columns on the flanks, on a stylobate of two steps. The

cella had two columns *in antis* in the pronaos, and no opisthodomos. The stereobate was formed in places by smoothing off the natural rock. The blocks of the stylobate steps were secured by iron clamps set in lead. Part of the interior of the cella was paved with a mosaic in cubes of black and white marble. The columns had no entasis. In the pronaos they had eighteen channels, in the peristyle sixteen, so placed that arrises lay in the axes of the plan, instead of channels as is usual. The capitals are wide-spreading, but of vigorous outline, with three approximately rectangular annulets, and an incision at the junction with the shaft, the epistyle-beams triple. The frieze and cornice present some archaic dispositions of design and construction. Neither mutules nor regulæ bore guttæ. The cymatium at the corners of the pediments was adorned with lion-heads of archaic type. Over the cornices of the sides were terra-cotta antefixes glazed red and black. The roofing-tiles were in terra-cotta, glazed black. The temple, built of rough native trachyte, was primed with stucco. The stylobate of the temple is 46 ft. by 100 ft. on the upper step; the cella, 26 ft. by 73 ft.; the columns, 3 ft. in diameter, are 8 ft. to 9 ft. from centre to centre; their height is 15 ft. 8 in.; that of the whole order, 22 ft. 3 in. In dimensions on the plan, it is almost exactly the same as the so-called Theseum at Athens. In date, though it can safely be assigned to the VI cent. B.C., Mr. J. T. Clarke places it later; making every allowance for its provincial position, it must be distinctly older than the temple of Ægina.

A notable feature of this temple is the highly archaic sculpture of its front and rear epistyle and metopes. Seventeen fragments of this sculpture have been in the Louvre, Paris, since 1838; of eleven new fragments, found by the American expedition, most are now in the Museum at Constantinople, though some of the chief pieces are in the Museum of Fine Arts in Boston. They are important not only as a connected series of archaic work, but for exhibiting the influence of Oriental elements upon Hellenic motives, as in the two affronted sphynxes on each façade. (*See Fig. 19.*)

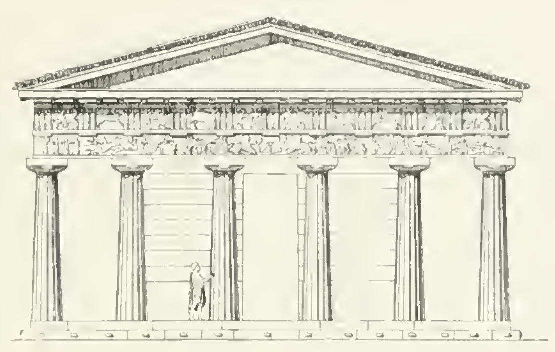


Fig. 19.—Assos, Temple.

THEATRE. All the upper part of the auditorium has perished. The lower seats are in place, also the foundations of the stage-structure. The orchestra is unpaved, and is surrounded by a balustrade. The theatre had two *diazomata* or horizontal passages, and a gallery around the top. In plan it is less than a semicircle.

ASTI, Italy.

BAPTISTERY. A characteristic example of the detached baptisteries of northern Italy. The building is twenty-four sided, of brick, with a diameter of about 52 ft. In the centre is a ring of eight low columns carrying stilted round arches, upon which is a plain unbroken wall about 32 ft. high, bearing a hemispherical vault, covered by a wooden roof. Against this wall abuts the encircling roof of the round aisle, which is vaulted in trapezoidal compartments. The architectural details, wrought on sandstone, are very simple and early in character. It is likely that the central octagon was an independent structure of the Lombards about which

the outer aisle was built, the central part being also carried up considerably later, perhaps in the X or XI century.

The CATHEDRAL is a XIII cent. church, about 88 ft. wide and 270 ft. long, of mixed Romanesque and Gothic design, with some peculiar features. The interior is divided into a nave and aisles of seven bays each, oblong in the nave and square in the aisles, with clustered piers carrying pointed arches. The choir has two rectangular groined bays and a polygonal buttressed apse, the aisles end in round apsidal chapels, the transept-arms consist each of a single bay with a projecting five-sided apse. Over the crossing, which is the fourth bay of the nave, is an octagonal lantern with a low roof. The west front is divided by octagonal buttresses into three compartments, with three pointed doorways connected by a blind arcade of tall pointed arches. Over each doorway is a wheel window, and above all is a low broken gable with arched corbel-table. On the south wall is a fine late enclosed porch with a single pointed doorway flanked by grouped columns, carrying arched canopies with statues. A detached campanile stands on the south side east of the transept, with five stories of round-arched windows in pairs and arcaded string-courses. The present church was built mainly in the first quarter of the XIII cent. on the site of an older (XI cent.) church, some fragments of which it embodies. The pointed vaults replace those which fell in 1323. The south porch dates from 1502. The details of the interior show marks of the transition from the round-arched to the pointed style, while on the exterior the two styles are intimately mingled.

S. SECONDO. A three-aisled cruciform Gothic church, much like the Cathedral in plan, but smaller, built in the first half of the XIII century. The west front is a screen with a broad single gable covering nave and aisles, and divided by piers or buttresses into compartments which are filled with blind arches. The aisles are lined with polygonal chapels.

ATHENS, Greece.

The ACROPOLIS, or ancient citadel, is a flat-topped hill on the southern margin of the modern city. It is a platform of limestone about 200 ft. high, 1,000 ft. long east and west, and less than half as wide north and south, inaccessible on all sides except the western, where the approach is, and guarded by a massive wall, of which the northern half is ascribed to Themistocles and the southern to Cimon. On it stand the most famous of the buildings of Athens, the Parthenon and the Erechtheum, and the remains of the older temple of Athena, while the western approach is guarded by the Propylæa. At the foot of the southern slope of the hill, less steep than the north, and under the wall of Cimon are, at the east end, the Theatre of Dionysos, and at the west the Odeum of Herodes Atticus or of Regilla, connected by the long stoa of Eumenes (*See Figs. 20, 21*). The southern wall serves in great part as a retaining-wall for artificial filling, and corrects the lack of natural steepness on this side of the Acropolis. On the face of this wall, immediately over the theatre, Antiochus IV., Epiphanes, dedicated a gilded Gorgon's head resting on the Ægis. Above the theatre, where the wall is highest, it is strengthened by eight square projecting buttresses of later construction. The north wall, or wall of Themistocles, contains column-drums of Poros, and portions of an entablature in Poros except the metopes, which are of marble, all these architectural fragments coming from the old temple of Athena thrown down by the Persians; and unfinished column-drums of marble, intended for the first Parthenon, begun by Cimon. The portions of the wall containing the older temple-remains were undoubtedly built by Cimon.

ARCH OF HADRIAN, east of the Acropolis and close to the temple of Olym-

pian Zeus. It is not mentioned by Pausanias, and may have been built after his visit, or even by one of Hadrian's successors, and it bears inscriptions commemorating the foundation by Hadrian of the suburb beyond it on the east. The monument is 44 ft. 3 in. broad and 59 ft. high. The arch of the gateway has a span of 20 ft. On either side of the roadway the arch was adorned with a detached Corinthian column. These have now disappeared, but their bases and the portions of entablature which rested on them survive in great part. Above the archway is an attic showing three rectangular openings, of which that in the middle is surmounted by a pediment.

Asclepieum or Sanctuary of Asklepios (Æsculapius), immediately adjoining the Dionysiac Theatre on the west. The peribolos, which contained two temples, in one of which was an ancient statue of the god, occupied the eastern and lower one of two terraces, about 164 ft. by 89 ft. The northern portion of the terrace, against the rock of the Acropolis, was occupied by the long stoa or porch in which were received the sick who sought the aid of the god. In the front part of the terrace, some remains of the two temples can be traced. The remaining space is shown by inscriptions to have been occupied by votive offerings, altars, and trees. The stoa at the back, extending along the whole length of the terrace, was about 36 ft. deep. Evidence appears of its remodelling, both structures being Doric. In the interior of the stoa foundation-piers remain of the inner longitudinal row of columns, with a double intercolumniation.

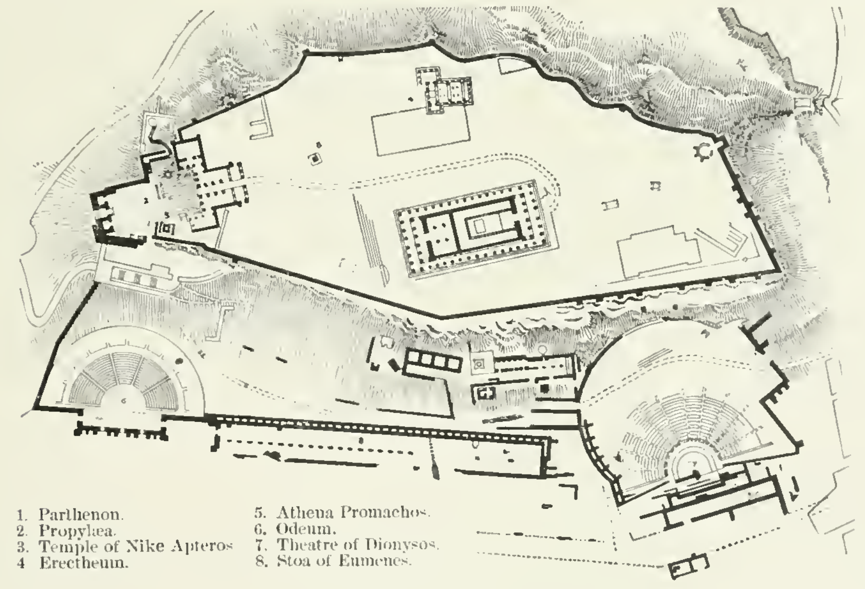


Fig. 20.—Athens, Acropolis.

Beulé's Gate, discovered by him in 1853 between two projecting towers at the foot of the incline sloping from the Propylæa on the west, is now the main entrance to the Acropolis. These towers were probably built in the first century, when the slope was covered with a broad flight of roughly worked marble steps, to form an approach more in accord with Roman ideas of magnificence than the old winding Hellenic way. Under the

Frankish rule the present connecting wall was built of ancient materials, conspicuous among which is the entablature of a Doric building, used as a frieze across the front.

The Old CATHEDRAL, called also the Catholicon, is a very small Byzantine church, whose unrecorded date has been variously assigned to the XI, XII, and XIII centuries. It is a parallelopiped of white marble, 25 ft. by 40 ft., from the middle of which rises an octagonal lantern with a round dome. The cruciform plan is marked by the roofs of the nave and transept, rising above the main cornice, and ending in four gables. Slender twin windows, filled with perforated marble, are set in these gables, and single ones in the faces of the lantern. Over the doors are arches and tympana on heavy lintels in the Italian fashion. Above the lintel-course the upper wall is built of interesting fragments of antique Greek and early Byzantine reliefs arranged in panels. Within, a vaulted narthex takes a third of the church. The short nave and aisles, also tunnel-vaulted, are separated by plain square piers, though originally four great columns supported the dome. There are three round eastern apses, of which only the middle one projects outwardly in a half hexagon, and the whole interior is painted with figures of the prophets and evangelists, and scenes from the life of Christ.



Fig 21.—Athens, Acropolis.

The New CATHEDRAL, much larger, and built at the middle of this century, is basilican in plan, embodying the remains of various older buildings, but is notable chiefly for the richness of its interior decoration.

CHORAGIC MONUMENT OF LYSICRATES, erected in honor of the victory at the Dionysia in 335–334 B.C. of the chorus of boys supported by him, sometimes called the Lamp of Diogenes. It consists of a square foundation of Piraic stone, supporting a circular edifice of Pentelic marble. The roof, conical and slightly dome-shaped, is cut from a single block of marble, and bears an elegant tripartite acroterium formed of graceful combinations of acanthus, designed to support the votive tripod awarded as the prize in the Dionysiac contest. The frieze of the entablature bears, delicately carved in very low relief, the punishment by Dionysos of the Tyrrhenian pirates, who are chastised by the god's attendant satyrs, and finally changed into dolphins. The entablature is supported by six Corinthian engaged columns, of which the capitals are treated with great refinement, and the attic bases

have no plinth. The intercolumniations were closed by thin slabs of marble, reaching to the capitals. The remaining space, up to the architrave, was filled by a band of tripods of simple design, sculptured in low relief. The whole of the superstructure is much broken; nevertheless the monument is the oldest example of the Corinthian order which survives in a state approaching completeness. The height of the foundation is about 13 ft., that of the circular superstructure, 21 ft. 4 in.; the diameter of the latter is 9 ft. 2 in.

Choragic Monument of Nicias, on the south or S. W. slope of the Acropolis, restored (1885) by Dörpfeld from fragments in and near the Beulé Gate of the Acropolis. A number of architrave-blocks, with metopes and pieces of the cornice in Pentelic marble, and triglyphs in Poros limestone, were employed in the construction and decoration of this gate. The building was erected in 319 B.C., by Nicias, son of Nicodemus, in commemoration of his victory with a chorus of boys. It was in the form of a Doric prostyle temple, with six columns in front, and one, with probably an anta, in each flank. The workmanship compares well with that of the Periclean buildings. The monument is to be distinguished from the choragic monument mentioned by Plutarch as dedicated by the celebrated general Nicias, within the Dionysiac peribolos. It is important for the study of architectural polychromy, as it supplies evidence, according with that gained at Olympia, that the triglyph was the only member usually painted in a uniform color. In the present case, the triglyphs alone were made of the cheap Poros stone, colored blue. The mutules also were painted blue; the spaces between them, brilliant red; and the upper moulding of the inside of the architrave, red.

The Choragic Monument of Thrasyllus, dating from B.C. 320, destroyed by the Turks in 1826, consisted of an entablature borne upon three Doric pilasters, which rested on a stereobate of two steps. The architrave bore a dedicatory inscription; the frieze was ornamented with eleven ivy-wreaths in relief. Above the projecting cornice there was an attic of three steps, upon which was placed a seated figure clad in a chiton and himation, with a skin about the shoulders—probably Dionysos. On either side stood a metallic tripod.

The Church of St. Theodore is a small Byzantine church of picturesque exterior, and the plan which characterizes the later Byzantine churches of Greece—a Greek cross enclosed in a square, with the arms of the cross showing in the ridged roofs of nave and transept. Over the crossing, on four piers, is an octagonal drum with shafted twin windows, carrying a dome without a cornice. The three eastern apses are round within, and polygonal without. (*See Fig. 22.*)



Fig 22.—Athens, St Theodore.

St. Nicomedes is another Byzantine church similar in character and plan to St. Theodore and the Catholicon.

Dipylon Gate, the best preserved of the ancient gates of the city, and the chief gate on the west side and for the region on the S. W., including the Piraeus. Through it passed the sacred way to Eleusis. The city walls here are double, the two lines being about 16 ft. apart. The outer wall is about 14 ft. thick, the inner, which is identified as the wall of Themistocles, only 8 ft. Both walls are faced on both sides with masonry, and have a filling of rubble. The inner wall is partly faced with polygonal masonry; the outer is less old, and is built of quadrangular blocks of conglomerate. The gate itself has an extended enclosed court, more than 130 ft. long, which could be barred at both ends, and was flanked by towers. The passage is divided at both extremities by a massive pier.



Fig. 23.—Athens, Erectheum.

The Erechtheum, or Temple of Erechtheus, the seat, at least after the old Temple of Athena had lost its preëminence, of the oldest and most intimate cult of Athena in her capacity as the especial protectress of Athens. Very little is known regarding the building of this beautiful temple. From its architectural details, its inception must date from the later years of the Age of Pericles. It undoubtedly took the place of an ancient temple destroyed by the Persians, and very probably succeeded the old Parthenon, which, as is now believed, stood immediately beside it to the south, as the home of Athena the local goddess, while the new Parthenon was the ceremonial temple of Athena as the personification of Athens victorious abroad, and become the administratrix of a realm. Inscriptions show that in 408–7 B.C., the temple was still unfinished, and that in 405–4 B.C., the west end was damaged by a fire. Other inscriptions of about the same date relate to various details of architecture and sculpture. (*See Fig. 23.*) In plan, the temple is an oblong rectangle, with its chief or front end turned toward the east, with porches, in the form of smaller rectangles, joined to it on both north and south sides, adjoining the west end. The east and south faces are on a level about 10 ft. higher than the north and west faces. The east front consisted of a portico of

six Ionic columns, resting on a stylobate of three steps, which are continued around the entire building. The north angle column was carried off in the beginning of the century by Lord Elgin. The five remaining columns preserve their architraves and two blocks of the frieze of black Eleusinian marble. The porch on the south side is the famous Porch of Caryatids, of which the entablature, lightened of its frieze, but with enriched cornice, is supported on the heads of six sculptured maidens, majestically draped —four in front, and one on either side. The Caryatids stand on a parapet or balustrade 8 ft. 6 in. high. The parapet was interrupted next the wall on the east side, to give access to a flight of steps leading to the westernmost division of the interior. The north side of the temple is approached from the east by a flight of twelve steps in the open air. The deep north porch was supported by six great Ionic columns, larger than those of the east front and placed, like the Caryatids, four in front and one on either side. The western hall of the temple is entered from this porch by a door of large size famous for its admirable design. A smaller door in its back wall leads into a space which was in antiquity an enclosed court, in which grew the sacred primeval olive of Athena, and where were lodged the two noble maidens who succeeded their predecessors every year in the service of the goddess. The west face of the temple had four Ionic engaged columns standing on a high wall between pilasters at the angles, the intercolumniations being closed by a wall and the three middle ones pierced by windows with slightly converging jambs. The plain walls of the building are surrounded beneath the architrave by an anthemion moulding, continued, as a necking, on the pilasters and around the columns. The ornamental mouldings throughout the temple are at once elaborate and of the utmost refinement. The material of the temple throughout is Pentelic marble, with the exception of the black marble frieze and the Piraic limestone of the substructions. The interior has been entirely ruined by the violence of Christian and Turk and the fortune of war; but approximate certainty has now been attained as to its arrangement. It comprised three main divisions: the eastern cella, which was the temple proper of Athena Polias, and contained her heaven-given image, before which burned the eternal fire in the golden lamp of Callimachus; a middle division, also a cella, sacred to Poseidon and Erechtheus, with whom were associated other divinities and heroes; and the western hall, which was entered from the south by the caryatid porch and served as a vestibule, was probably divided from the central cella by some kind of screen which admitted the light of the west windows. This cella communicated with the east cella by a stairway; and under its north side was a crypt, presumably the home of the Erichthonios serpent, communicating with a recess beneath the pavement of the north porch, at the bottom of which, in the living rock, still appears the mighty trident-stroke which evoked the sea-spring of Poseidon. But little remains, apart from the Caryatids, of the plastic decoration of the Erechtheum. The pediments were never filled with sculpture; but an extensive series of reliefs cut in Pentelic marble was fixed upon the black ground of the frieze. Interesting details of the cost of these reliefs are preserved in inscriptions, and a number of fragments of them have been found, and are now in the Acropolis Museum. The dimensions of the temple are small, the body of the temple being only 37 ft. by 66½ ft., and the columns of the east portico 22 ft. 4 in. high, with a lower diameter of 2 ft. 5½ in.

FOUNTAIN KLEPSYDRA, at the N. W. foot of the Acropolis beneath the Propy-

laea. It is approached from above by sixty-nine steps, partly restored, and partly rock-cut. These steps lead to the Byzantine Chapel of the Twelve Apostles, about 13 ft. long and 6 ft. 6 in. wide, with dilapidated wall-paintings. In the S. W. corner of the chapel a small circular well-hole about 33 ft. deep gives access to the fountain, of which the ancient rectangular basin is enclosed with marble slabs.

Gate of the New Agora, or Oil Market, dedicated to Athena Archegetis (the Founder or Ruler). The portion that survives is of marble, and consists of four Doric columns supporting an architrave and triglyph-frieze, and a pediment which is almost complete, together with the southernmost of the four antæ which originally formed three doorways within the portico. The width of the portico is 36 ft. 6 in. The columns, which are formed of six drums and have twenty channels, are 25 ft. 10 in. high, and 4 ft. in diameter at the base. The middle opening is 11 ft. 2 in., to admit of the passage of vehicles, while the side intercolumniations are 4 ft. 8 in. The monument is shown by an inscription on the architrave to have been built in the time of Augustus from gifts made to the city by Julius Cæsar and Augustus. On the left of the middle passage, a massive slab of marble still stands in its original place, bearing an edict of Hadrian regulating the prices of oil and salt, and various other matters. Remains survive of the ranges of columns, in blue Hymettian marble without flutes, with Ionic capitals in Pentelic, which once skirted this agora. From the position of these columns the agora must have been about 325 ft. long and 200 ft. wide.

Horologium of Andronicus, commonly called Tower of the Winds. This building, erected in the first century B.C., is of marble, octagonal in plan, 26 ft. in diameter, and 42 ft. in height, including the stereobate of three steps, to the top of the cornice decorated with lion-heads. There are doors on the N. W. and N. E. sides, originally with porches of two Corinthian columns, of which capitals, of highly simplified form, survive. On the upper part or frieze of each of the eight sides, is a relief, of bold but rather coarse design, of a winged figure representing the



Fig. 24—Athens Horologium of Andronicus, or Tower of the Winds.

wind of the corresponding quarter of the horizon, the names being incised beside the figures. Beneath the reliefs are cut lines for sun-dials of twelve hours. The pyramidal roof is formed of marble voussoirs with a circular keystone. On this once stood a brass figure of a Triton holding a staff, which served as a wind-vane. On the south side projects a turret of semicircular plan which contained a water-tank, supplied by a covered conduit. This served for the water-clock, of uncertain construction, which was connected with the building. *(See Fig. 24.)* Close to the Horologium, two arches and a fragment remain, with foundations indicating the presence of a hall or porch of Roman construction. Inscriptions upon fragments of the frieze show that the building, like the gate of the New Agora, was dedicated to Athena Archegetis, to-

gether with members of the Roman imperial family.

Monument of Antiochus Philopappus, grandson of Antiochus IV., Epiphanes, king of Syria, erected between 114 and 116 A.D., on the summit of the Museum Hill. The façade, turned toward the Acropolis, is slightly concave, the original length of its chord being about 33 ft., of which about two-thirds remain. The total height is about 41 ft. The base is formed of five courses of Piraic limestone, on which is a band of Hymettian and Pentelic marble, over which, again, is a frieze of marble, 9 ft. 2 in. high, bearing a badly damaged relief representing Philopappus in triumph on a quadriga, and extending the whole width of the monument. At either side was a pilaster, and above is a cornice of bold projection. The upper portion of the monument was divided into three niches, of which the outer two were quadrangular, and the middle one round. The two surviving niches on the left contain statues of male vested figures. Inscriptions record the titles and qualities of Philopappus, and of the kings, his ancestors. The rear of the monument is in a ruinous condition : it probably included a quadrangular structure containing the place of sepulture.

Odeum of Regilla or Theatre of Herodes, at the S. W. angle of the Acropolis. Pausanias does not mention it in his account of Athens, and says elsewhere that it was not begun at the time of his visit. It was considered the finest building of the kind in Greece, was entirely roofed with cedar, and was erected by Herodes Atticus between 160 and 170 A.D., in memory of his deceased wife Regilla. Its massive remains were generally considered, down to the time of Chandler, to be the Theatre of Dionysos, an error adopted even by Stuart. The interior was excavated in 1857. Its greatest diameter within the walls is about 262 ft. Its capacity is reckoned at 10,000 spectators. Its seats were divided by one precinction (*diazoma*) : the lower tier had twenty rows divided into five cunei, the upper, which is in great part destroyed, about thirteen, divided into ten cunei. The height of the seats is 1 ft. 5 in., and in profile they resemble those of the Dionysiac theatre. The seats of the lower tier were seats of honor, with backs. A gallery ran round the top, enclosed by a massive semicircular wall of Piraic stone, on which the roof rested. The orchestra, rather more than a half circle, is paved with rectangular slabs of different colored marbles. At either side are exit-passages (*parodoi*) along the stage-wall, leading down by easy steps to doorways opening upon vestibules through which one can pass out to the south. The stage is about 115 ft. long and 26 ft. deep, and is raised 5 ft. above the orchestra, with which it communicated by two flights of steps. The front wall of the stage was ornamented with slabs and mouldings of marble. In the rear wall of the stage are three doors, the side doors flanked by arched niches for statues. A row of columns about 17 ft. high ran across the width of the stage. Upon their entablature probably stood a second row of smaller columns, in front of the seven arched windows of the second story. Above, some remains survive of a third story, also with windows. In each wing of the building in the second story are two vaulted rooms, communicating with the orchestra, the stage, and the precinction of the auditorium. The most eastern of these rooms opened directly upon the great stoa or portico connecting the Odeum and the Dionysiac Theatre. The exterior face of the back wall of the stage bears also six niches for statues. The exterior wall of the two wings is plain below, and shows two upper tiers of arched openings, as high as the uppermost seats of the auditorium. The masonry of the building is very fine and

massive, the stone blocks large, and the joints carefully cut and fitted.

OLYMPIEUM. See *Temple of Zeus Olympios*.

The PANATHENAIC STADIUM, on the left bank of the Ilissus, S. E. of the city, was completely excavated by Ziller in 1869–70. The natural conformation of the ground, a valley open toward the Ilissus, was exactly suited for a stadium. Lycurgus, the orator and treasurer of Athens in the middle of the IV cent. B.C., surrounded the stadium with a stone coping. Five centuries later Herodes Atticus provided it throughout with marble seats and built several costly buildings on the surrounding heights—among them, a temple of Tyche (Fortune), in which was placed a statue of the goddess in ivory. The whole was a subject of wonder to his contemporaries, and when he died, he was buried by the city within the stadium itself. All of Herodes's marblework has gone to feed neighboring lime-kilns. The whole length of the level course of the stadium, from the enclosing-wall at the north end to the arc of the terminating half-circle, or *sphendonē*, opposite, is 670 ft.; the breadth is 110 ft. The goal stood at the centre of the half-circle forming the southern end. The foundations and some slabs of the marble barrier which enclosed the course still exist at the innermost end, and traces appear of a metal grating surmounting the barrier—no doubt for the security of the spectators during the animal-shows which were instituted here by the Romans. The tiers of seats were over fifty in number, and could receive from 40,000 to 50,000 spectators. Traces survive, in front of the north end, of a portico and of buildings intended, no doubt, for gymnastic exercises.

The PARTHENON, or Temple of Athena Parthenos (Pallas the Virgin), occupies the highest part of the Acropolis, toward the south side. It was built by Pericles, under the supreme artistic direction of Phidias, with Ictinus and Callicrates as architects. The exact dates of the construction are not finally determined; but the work extended from between 454 and 447 B.C. to 434. The Parthenon took the place, with somewhat altered proportions, of a temple begun on the same site by Cimon, after the Persian wars. As to its later history, there is a record of repairs in 341 B.C. and at various other times; in 304 the Macedonian general Demetrius appropriated the rear-chamber, or treasury, as a dwelling for himself; in the V or VI cent. A.D. it became a Church of the Heavenly Wisdom, later of the Theotokos (Mother of God); in 1206 it was consecrated under the Latin rite; in 1460 it was converted into a mosque; in 1687 a bomb thrown by the Venetians under the captain-general and future Doge Morosini and the Dane Kœnigsmarck fell in a powder magazine established in the temple, and destroyed the middle portion of it; and in the beginning of the present century it was further damaged by Lord Elgin, who shattered and threw down blocks of the cornice in order to carry off the metopes, and did other injuries. When the temple was appropriated as a church, it suffered mutilation in the transfer of its chief entrance to the west end, the construction of an apse in the pronaos, and the alteration of the roof and the interior columns of the cella. The Turks, in turn, built a minaret in the southern side of the western inner portico. The Parthenon is Doric, octastyle, peripteral, with seventeen columns on the flanks, enclosing a cella which is amphiprostyle hexastyle. The interior of the cella was divided into three aisles by two rows of nine small Doric columns with a pier at the west end of each row, and a transverse row of three columns between the piers. These columns supported galleries over the side-aisles, and were surmounted by a second

range of columns. The ceiling of the cella was of wood. The base for the great chryselephantine statue by Phidias stood in a line with the seventh and eighth interior columns counted from the east. The treasure-chamber, or Parthenon proper, behind the cella had a coffered ceiling of marble, supported by four Ionic columns. The building was entered by great double doors, probably of metal, opening on the pronaos and epinaos, or rear vestibule. The entire temple was of Pentelic marble, with the exception of the roof-tiles of Parian. It represents the final development of Doric architecture, tempered with graceful Ionic decorative motives. All the horizontal lines are slightly convex upward ; the columns are all inclined slightly inward, and while decreasing in diameter from base to neck, show in outline a slight swelling (entasis), which is greatest at about one-third of the height. The intercolumniations next the angles are a little narrower than the others, and the angle-columns are a very little heavier than the others. The joints of the stones are so perfect that, where they remain undisturbed, in no place can the finest knife-blade be inserted in them : and frequently they are actually invisible. The manner in which the temple was lighted is a subject of controversy. It is hardly probable that the cella received its only natural light by the east door. The advocates of the hypæthral theory hold that a large section of the roof was omitted in the middle. A plausible theory is that comparatively narrow channels were left open in the roof over the galleries, which would admit light with excellent effect, while what water might penetrate would be comparatively easy to deal with. The plastic decoration of the Parthenon consisted of : 1. The sculptures in the round of the pediments. 2. The metopes. 3. The frieze of the exterior of the cella. 4. The chryselephantine statue of Athena Parthenos—the tutelary goddess of Athens. What remains of the pediment statues ranks as the ideal of sculpture. The group in the east or chief pediment represented the birth of Athena, among the assembled gods of Olympus. That in the west pediment exhibited the dispute between Athena and Poseidon for supremacy in the land of Attica. There were seventy-eight metopes—fourteen on each end, and thirty-two on each side of the temple—carved with figures in very high relief, in general two figures on every metope. The subjects comprise : the Gigantomachy, or contest between gods and giants ; the fight between Centaurs and Lapiths ; the war between the Athenians and the Amazons, and the destruction of Troy. The frieze surrounds the whole of the cella with a continuous scene in very low relief, representing the solemn Panathenaic pageant, beginning at the S.W. angle and advancing simultaneously along the west and north and the south sides to culminate in the presence of the assembled gods on the east front. The relief is wrought with the greatest delicacy, its extreme projection being only about two inches. The gold and ivory statue by Phidias, represented Athena standing, wearing the helmet and ægis, holding with her left hand her spear and shield resting on the ground, and bearing in her right hand a winged Victory turned partly toward her and extending a garland. Behind the shield was coiled the autochthonous serpent of Athens, Erichthonios. The principles of polychromy were applied in the Parthenon. The remains of the colors are too faint and partial to admit of a reconstitution of the entire system ; but it is at least safe to assume that the triglyphs were painted blue, and the field of the metopes and the tympana of the pediments red. Elaborate frets and other designs still appear painted on various members of the architecture, though the colors have faded ; and there is no doubt that the sculptures were colored in more

or fewer details. But it is still a matter of dispute what portions of the monument, if any, were left of the natural hue of the spotless Pentelic marble, or were merely faintly tinted in monochrome. In its marvellous subtlety, refinement, and science 11 in. The height of the columns is then very nearly $5\frac{3}{5}$ diameters, and $3\frac{1}{5}$ times that of the entablature. The metopes, as high as the frieze, are nearly square, being 4 ft. 2 in. broad on the average; the sculptured frieze of the cella is 3 ft. 3 in.



Fig. 25.—Athens, Parthenon.

of proportions, its unapproached perfection of execution, and the magnificence, yet unerring subordination to general effect, of its decoration, the Parthenon was the supreme work that Greek genius created. Its sculptures to-day, fragmentary and mutilated as the violence of men has left them, exhibit the consummation of art. They have never been equalled; and it is not possible to conceive that they can be surpassed. Its principal dimensions are these, omitting insignificant fractions:—The top of the platform, or crepidoma, is 101 ft. by 228 ft., its three steps are each 21 in. high. The average height of the columns of the peristyle is 34 ft. 2 in., their average diameter at the base 6 ft. 3 in., at the neck 4 ft. 10 in., the interval between them 7 ft. 4 in. on the fronts, and 8 ft. 2 in. on the flanks. The main entablature is 10 ft. 9 in. high, of which the architrave and frieze are each 4 ft. 5 in., the cornice 1 ft. high and its whole length 523 ft. The height of the statue of Athena, with its pedestal, is estimated at 40 ft. (*See Fig. 25.*)

[NOTE.—An examination of the foundations of the Parthenon in 1835 by Ross showed that the present temple had taken the place of an older one built of Poros stone, and archaeologists accepted his conclusions that the original temple of Athena had stood in the place of the Parthenon, had been destroyed by the Persians, and then replaced by the Parthenon. But in 1885–87 Dr. Dörpfeld and Mr. Kavvadias excavated and examined old foundations and remains between the Parthenon and the Erechtheum, by which Dr. Dörpfeld was led to the following conclusions: that an archaic Doric temple of Athena was built in that position before the time of Pisistratus, and consisted of a cella and opisthodomos *in antis*; that Pisistratus added a peristyle

to it, and adorned it with sculptured pediment and metopes; that this temple was destroyed by the Persians, and at once rebuilt in its simple older form; that then a new temple of Poros was begun beside it under Cimon, which was the predecessor of the present Parthenon, and the one of which indications were discovered by Ross, but that before it was finished this was removed as inadequate, to make room for the more splendid temple built by Pericles; and finally that meanwhile the Erechtheum was built close against the old temple, to receive the images and relics which it held, when it should be pulled down, as was then intended, but that the old temple was preserved, presumably through intercession of the priests, for the worship of Athena, after the later temples were built. Later, Mr. Penrose has examined the site, and has published (in 1892) his conclusion that the original temple of Athena occupied the site of the Parthenon, was built and finished before the Persian war and destroyed by the Persians, as had been before believed; and that its remains survive in the Doric fragments which are assigned by Dr. Dörpfeld to the archaic temple adjoining the Erechtheum. Here the question rests at present, but with a preponderating belief of archæologists in favor of Dr. Dörpfeld's theory.]

The Propylæa, or monumental gateway of the Acropolis, was built under the administration of Pericles by Mnesicles. Work on the building was interrupted in 432 B.C., by the preliminaries of the Peloponnesian war, and it was never resumed; the design was thus only in part carried out, and the portions completed never received the finishing touches. The Propylæa includes the gate proper, flanked by two wings on the south and north, projecting toward the west, and the advancing porticoes from which it gets its name. It occupies the entire width of the slope by which the Acropolis is accessible from the west, from the Nike bastion on the south to the steep cliff on the north. The west side is supported on considerable substructions of masonry, mostly increasing in height toward the north. The entrance proper consists of a portico of six Doric columns, on a stylobate of four steps, which is interrupted in the middle to afford a passage for the inclined roadway by which sacrificial victims and perhaps chariots made the ascent in antiquity. The middle intercolumniation has an interval of two triglyphs, in order to give space for this passage. On either side of the portico there is a plain wall, and in the middle, bounding the inclined roadway, three tall slender Ionic columns on both the north side and the south, the capitals being of noteworthy purity of design. The back or east wall of the portico, raised on five steps, is pierced with five doorways corresponding to the intercolumniations of the front, the middle one being the highest and widest, and those on either side decreasing. These doorways open into the east portico, which is of less depth than that on the west, and has a front with six great Doric columns very similar to those of the west portico. The wings have each a Doric portico of three columns, facing each other at right angles to the main west portico, the proportions being harmoniously reduced from those of the latter. The north wing has behind the portico a rectangular room with a door flanked by two windows, identified with the ancient Pinacotheca, or hall of paintings. The south wing is much shallower, and has no partition; it is probable that it was designed to correspond more closely with the north wing, and that it must have been curtailed from opposition of the priests to further interference with the adjoining consecrated sites. The Propylæa seems to have been entirely devoid of carved ornament, beyond a few simple mouldings, and the indispensable elements of the orders employed.

There was never any sculpture in the pediments, but the perfection of execution and the refinement of proportions through every detail of the building have never been surpassed, and probably only once or twice equalled. The material is Pentelic marble, with a band of black Eleusinian marble beneath the windows of the north wing, the same material being used in the door-sills, and for the base of the walls of the main building. The foundations are of Piraic limestone. The coffers of the ceiling were painted blue, with stars or anthemia in gold. A stone seat is carried around the walls of the porticoes. The ceiling of the Pinacotheca was of wood. A noteworthy peculiarity is that the metopes and triglyphs of the frieze are carved on the same block of marble, instead of being as is usual before the decadence, formed of separate blocks. The Doric columns all have twenty channels, and the Ionic columns twenty-four flutes. On the east, the original design provided stoas to extend from the central portico north and south to the walls of the Acropolis. The antæ for these stoas were built on either side of the main portico, as well as a portion of the west wall of the northern stoa. The southern stoa would have covered a considerable portion of the temenos of Artemis Brauronia, and necessitated the removal of the old Pelasgic wall and other venerated relics. It is therefore obvious that the priests must have opposed its construction, just as they must have caused the existing south wing to be mutilated in its execution. The principal dimensions are: height of columns, west portico, 29 ft., diameter at base, 5 ft. 3 in., at neck 3 ft. 11 in.; width of portico, 59 ft. 6 in.; width of central passage, or ramp, 12 ft. 4 in., main doorway over it, 13 ft. 9 in. by 24 ft. 2 in. The columns of the Ionic order are 33 ft. 9 in. high, their diameter at base 3 ft. 2 in., their architrave 2 ft. 10 in.

Some foundations of the older Propylæa and an anta remain behind the south wing of the present. The old entrance appears to have had the form, usual in Greek fortifications, of an outer and an inner gate, with a court between them. It entered from the southwest.

Ship-houses in the Piræus excavated in 1885–1886, on the shore of the S. E. harbor (Zea or Munychia) near the east side of its entrance. The remains of eleven of these houses have been in part explored. They were arranged side by side in pairs, every pair under one roof or shed, supported at the sides and in the middle, between the two adjoining houses, by parallel ranges of columns, and enclosed on the land side by a massive wall. The width of the houses varied slightly, but was about 21 ft., and the back wall is at an average distance of about 100 ft. from the water. The central portion of each was occupied by an inclined plane, about 10 ft. wide, on which was drawn up the galley which was housed there, and at the land end about 17 ft. above the water-level. Some of these inclined planes were hewn in great part from the rock; others were built up of masonry. The remains extend out in the water of the harbor to a distance which is not yet determined.

The Statue of Athena Promachos (Pallas, as Protectress, Fighting in Front), in bronze, by Phidias, from the spoils of the Persians, placed between the Erechtheum and the Propylæa, was of such size that the gleaming point of the lance which the goddess held resting on the ground beside her formed a landmark beside the Parthenon for seamen approaching from the direction of Sunium.

Stoa of Attalus, on the east side of the agora, built by Attalus II. of Pergamon (159–138 B.C.). It was erroneously identified by Leake, and others, with the Gymnasium of Ptolemy. Its identity was established by the discovery of a part of the dedicatory inscription on the Doric epistyle. The portico consisted of two stories,

open and supported on columns on the side toward the agora. The lower front range was of thirty-five Doric columns resting on a stylobate of three steps. There were two inner ranges, also of thirty-five columns, the outer one of these being Corinthian, the inner Ionic. The colonnades of the upper story were of similar plan, but formed of rectangular pillars flanked by semi-columns. Behind the columns were twenty-one chambers, serving probably as shops or as places for storage. The entire depth of the stoa was 63 ft. 9 in.: its length was 387 ft. The north end-wall has marble seats, arranged as a kind of exedra. In front of the stoa the Roman generals erected a bema or tribune for the promulgation of public notices.

Stoa of Eumenes, of two aisles, extending between the Theatre of Dionysos, and the Odeum of Regilla. Along the whole of the terrace at the foot of the Acropolis is carried a retaining-wall, strengthened by projecting buttresses connected by arches. Immediately in front of this wall, and masking it, was the rear wall of the stoa, which was 535 ft. long and about 53 ft. deep. The limestone foundations of the front of the stereobate remain in great part, as well as the quadrangular stone bases of an inner row of columns, and portions of the side and rear walls, which had a podium of Hymettian marble. The roof was of wood. The wall of the stoa corresponds exactly with the line of the chord of the cavea of the Odeum of Regilla. It had direct communication with the Odeum by means of a door, and may have been connected with the upper part of the cavea of the Dionysiac Theatre by means of a flight of stairs. The retaining-wall, from its construction, was undoubtedly built at the same time with the stoa, but must have replaced an older wall.

Stoa of the Giants (so-called), within the old area of the Agora, between the Stoa of Attalus and the so-called Theseum. The remains are of late Roman date, or even later. Four great foundation-piers of very rude construction support rectangular bases of marble, of rough workmanship. The fronts of these bases are carved each with a serpent entwined about an olive-tree. On the bases stand pillars of some height, and on the pillars colossal male figures, the lower part of the body of fantastically contorted serpent-form. The heads are gone, and the arms seem to have been raised to support an epistyle in the guise of Atlantes. The figures are of much superior workmanship, and doubtless of earlier date than the rest. The three entrances between the four piers apparently led into a rectangular hall with rooms opening into it on either side. There are traces of a fountain, and perhaps of a bath.

Stoa of Hadrian, the modern name for the ruin of which the most prominent fragment is a high wall in front of which stand seven monolithic Corinthian columns of Karystos marble, 28 ft. high, opposite the modern bazar. It formed a part of the Gymnasium of Hadrian, which is now lost among the buildings of the modern city.

Temple of Athena. See *Parthenon*.

The Temple on the Ilissus, perhaps to be identified as the Temple of Eukleia, was destroyed by the Turks in 1780, in building fortifications, fortunately not until Stuart had measured and drawn it. It was Ionic, amphiprostyle, on a crepidoma of three steps, with four columns in front and rear. On the east side, the cella walls were carried forward, forming a pronaos with antæ corresponding to the angle-columns. At the west end there were merely antæ, with no opisthodomos. The temple was dedicated by the Christians as a church.

The Temple of Nike Apteros (the Wingless Victory, or Athena as Goddess of Victory), occupies the top of the bastion or pyrgos in front of the south wing of

the Propylæa. The little temple, of Pentelic marble, is Ionic, amphiprostyle, tetrastyle, upon a crepidoma of three steps, the lowest projecting less than 3 in. The stylobate is 27 ft. long and 17 ft. 10 in. wide. The total height of the columns is slightly over 13 ft.; they are stout and tapering, their bases are high, and of somewhat archaic design, and the capitals



Fig. 26.—Athens, Temple of Nike Apteros.

also are large in proportion. The shafts have twenty-four flutes, and the intercolumniation is 5 ft. 2 in. The architrave is divided into three bands projecting one over the other. The frieze bears figures in high relief, and though much damaged nearly all survives. Several of the sculptured slabs are in the British Museum, and are now represented on the temple by casts. The subjects include an assembly of the Gods (east front), and battles of foot-soldiers and cavalry, some of the combatants wearing the Persian dress. The pediments were not filled with sculpture. The cella measures within 12 ft. 5 in. long and 13 ft. 9 in. wide. It is not closed by a wall on the front, but has two piers with a space 4 ft. 7 in. between them for the door, anciently flanked by metallic gratings. It contained the statue of Athena Nike. Blocks of Poros stone in the pavement before the temple doubtless mark the position of the altar. The architectural relations of the bastion with the Propylæa, show that the plans for this temple must have been made before 432 B.C., when work on the Propylæa was closed. During the siege of the Acropolis in 1687, the temple was entirely pulled down by the Turks, and the materials were used for the construction of a battery. In 1835 the German architects, Schaubert and Hansen, recovered almost all the stones, and set up the temple again on its ancient site, as it now stands. The so-called balustrade consisted of slabs of marble placed upright along the three free sides of the temple bastion, and bearing on the outer side sculpture in high relief representing subjects connected with the cult of the goddess Victory. One of these balustrade subjects is the famous Victory loosing her Sandal. The lack of simplicity in design, and the research of transparency in the draperies, show that this balustrade is of later date than the v cent. B.C. It probably replaced an earlier balustrade which was presumably without sculpture. A metal grating was fixed on the top of it, and was carried across from both sides on the east, so as to enclose the temple. (*See Fig. 26.*)

Temple of Zeus Olympios (Olympian Jove), or the Olympieum, S. E. of the Acropolis, near the bank of the Ilissus and the Fountain of Callirrhoe. The site was very anciently held sacred, as that where Deucalion offered thanks to Zeus after the flood. The earliest temple here of which we have historic knowledge, founded by Pisistratus, about 530, was left unfinished by the expulsion of the Pisistratids in

510, and taken up again by Antiochus IV., Epiphanes, on a magnificent scale, about 174 B.C., with the Roman Cossutius as architect. He built the Corinthian dipteros, and gave the temple its definitive form. In 86 B.C., Sulla carried off to Rome, for the Capitoline temple of Jove, some columns possibly from the foundation of Pisistratus, or perhaps copied after those belonging to it. Finally Hadrian undertook the completion of the building in a style of lavish splendor. He gave the great chryselephantine statue of Zeus, which was excelled in size only by the colossi of Rhodes and Rome. The temple, dedicated in 129 or 130 A.D., had two ranges of columns on the flanks and three on the ends, besides columns between the antæ of pronaos and opisthodomos. It had eight columns in front and rear, declared Dörpfeld in 1886; contrary to the formerly received opinion that it had ten columns on the ends. Many authorities give the number of columns on the flanks as twenty-one, but the number twenty was determined by Revett in 1765. The Corinthian columns are of Pentelic marble, with twenty-four flutes; height, 56 ft. 7 in., including capital (6 ft. 7½ in.), and base (3 ft. 9⅔ in.); diameter, above base, 5 ft. 7 in., beneath capital, 4 ft. 10⅔ in.; the entasis more marked than was usual at the best time, the intercolumnation, 9 ft. 7 in. The length of the temple is given as 353 ft., its breadth as 134 ft. The temenos, 676 ft. by 426 ft., was adorned with a great number of statues of Hadrian dedicated by many Grecian states, together with other statues and monuments. A statue of Hadrian was also placed in the cella beside that of Zeus. Sixteen columns of the temple survive, with a great part of their architrave. The capitals are cut from two blocks. Three blocks side by side form the architrave. The temenos is supported on the side next the Ilissus by a massive retaining-wall strengthened by buttresses and 15 ft. high at the east end. Upon the establishment of the Christian religion, this great temple became a church of St. John. The time and manner of its destruction are not known. For four hundred and fifty years it is known to have been substantially in its present condition.

Theatre of Dionysos (Bacchus), on the southern slope of the Acropolis, toward the east end. It was founded in the shape in which it now appears early in the V cent. B.C.; and was completed by the orator Lycurgus about B.C. 329. The stage and orchestra were remodelled by the Romans. The remains of the theatre were excavated between 1860 and 1865, and again in 1877. The plan of the cavea is horse-shoe shaped, and covers two-thirds of a circle. At one place, a segment of the Acropolis cliff is cut away. The outline on the east side, though now in great part destroyed, was manifestly very irregular. The cavea was divided into thirteen cunei by fourteen flights of steps radiating from the orchestra. At about two-thirds the distance to the top was a horizontal passage formed by permitting the old path skirting the Acropolis to pass through the theatre. Nearly all the seats, except the lowest tiers, have been carried away. They were of Piraic stone, about 1 ft. 2 in. high, and 2 ft. 8 in. broad, hollowed out on the front face, and with a depression at the back for the feet of the spectators next above. The lowest row next to the orchestra was occupied by thrones of Pentelic marble, sixty-seven in all, fifty being still in place. The middle one, that of the chief priest of Dionysos, is richly carved; it dates from the early Roman Empire. The others are older, and are set apart, by inscriptions, for priests and other dignitaries. Other thrones are scattered among the ordinary seats, as well as the bases of many statues of poets, among them one of Menander, a number of Hadrian, and a large base behind the throne of the Dionysiac priest,

which may have been a place of state for the emperor himself. The capacity of the theatre was from 27,000 to 30,000 spectators. The arrangement and remains of the cavea belong essentially to the V cent. B.C. The orchestra remains in the form given it by the Romans. Its length along the existing stage wall is 78 ft. 6 in.; its width, measured from the steps of the stage along the axis of the theatre, is 58 ft. 6 in. It is paved with slabs alternately of Pentelic and Hymettian marble, the middle being occupied by a large diamond-shaped figure of white, blue, and reddish slabs. In the central slab is a circular depression, probably intended to receive the thymele, or altar of Dionysos. Along the outer edge of the broad lowest step of the cavea is carried a barrier of upright marble slabs, clamped firmly together, 3 ft. 7 in. high. Its upper edge bears marks of the presence of a metallic grating, doubtless placed there to protect the spectators, when the theatre came to be used, under Roman influence, for gladiatorial shows. The Romans advanced the stage into the orchestra, cutting off entirely the side passages (πάροδοι) for both orchestra and audience which existed in the earlier plan. The stage, of which the western half survives, was built by Phædrus, an Athenian magistrate, probably in the III cent. A.D. A flight of five steps in the middle gives communication with the orchestra. The front is ornamented with groups of figures about 3 ft. high, in high relief, representing scenes from the early life and the Attic cult of Dionysos. The sculptures are good work of the early Empire, and thus antedate the wall. In a deep niche in the middle is a crouching Silenus, of still earlier workmanship, the cornice of the wall resting on his back. Among the ruins behind the stage-wall of Phædrus, some vestiges of a portico connected with an earlier Roman stage-wall ascribed to the time of Nero can be traced, consisting of a row of small columns supporting arches; and extensive foundations of two periods remain, with evidence that the earlier does not antedate Lycurgus, 340 B.C. The earliest stage was a rectangular hall about 69 ft. long, enclosed on either side by projecting buildings, with a long stoa at the back. The second advanced into the orchestra, and had a proscenium-wall ornamented with pillars 10 ft. to 12 ft. high. (*See Fig. 27.*)



Fig. 27.—Athens, Theatre of Dionysos, Stage-wall.

THEATRE OF HERODES. See *Odeum*.

The THESEUM or Temple of Theseus so-called, now identified with practical certainty as the ancient temple of Hephaistos (Vulcan), is the best preserved building of ancient Greece. It must have been begun very close to 460 B.C. The temple is Doric, hexastyle, peripteral, with two columns between antæ in the pronaos and opisthodomos, and thirteen columns in each flank, resting on a stylobate of three steps, two of marble, supported on a sub-

struction of Poros stone. The material throughout above the substruction is Pentelic marble, which from age has assumed a golden-brown tint. The length on the upper step is 104 ft. 6 in.; the breadth, 45 ft. 5 in.; the height of the columns, including the capital (15 in.), 19 ft. 3½ in.; the diameter of the columns at the base, 3 ft. 3¾ in., at the neck, 2 ft. 7¼ in. The entasis is very slight; the columns have twenty channels, which diminish in depth toward the top. The space between the columns approximates 5 ft. 2½ in., except at the angles, where it is about 4 ft. 2 in. The columns of the peristyle have a slight inclination inward. The cella is 39 ft. 8 in. by 20 ft. 5 in. The pronaos is recessed 12 ft. 9½ in. within the peristyle, the opisthodomos 10 ft. 6 in. The depth of the pronaos, which is greater than that of the opisthodomos, is 16 ft. 5 in. The columns of the pronaos were removed at an early date, when the temple was dedicated as a church of St. George; its architrave is now supported by a wall. The marble coffered ceiling of the portico is the most complete surviving. The pediments were filled with sculpture, which is now entirely gone, though marks of its placing remain. The metopes were sculptured only on the east front, together with the four on each flank next to that front. The subjects are the feats of Hercules and of Theseus. The cella frieze was sculptured over both pronaos and opisthodomos and at the eastern extremities of the flanks. Though much damaged, these sculptures show excellent design and workmanship. The subjects are: at the east end, a battle, perhaps of the Athenians against the Eleusinians and Thracians, in presence of several of the greater gods, represented above the antæ; at the west end, the combat of the Athenians and the Lapiths against the Centaurs. The existing arched roof of the cella is modern, as well as the small entrance door on the south side. (*See Fig. 28.*)



Fig. 28.—Athens, Theseum.

TOWER OF THE WINDS. See *Horologium of Andronicus.*

ATRI, Italy.

The CATHEDRAL, one of the characteristic Gothic buildings of the Abruzzi, is a three-aisled church with a single eastern apse, built at the end of the XIII century. The rectangular front, disguising the outline of the nave and aisles, and divided by flat pilasters, is pierced by a single middle door, inscribed with the date 1305, round-arched, but richly decorated with Gothic sculpture, angle-shafts, dog-tooth and cable-mouldings. The high gable over it, reaching to the cornice, contains a wheel-window of similar style. A horizontal trefoiled eaves-cornice finishes the façade. On the south side is another door somewhat similar in design, but of finer proportion. The interior, with pointed arcades and vaulted apse, had a flat wooden ceiling, but was vaulted in

1830. It was decorated with very interesting frescoes, which have been obliterated by whitewash except in the walls and vault of the apse, where they have been elaborately restored. The handsome bell-tower is tall and square, with a two-storied octagonal lantern which is pierced by a range of broad pointed twin windows and round windows above, and crowned by a low spire with a group of pinnacles. The arcaded cornice of the front is repeated at each story of the tower, and even round the pinnacles.

AUGUSTA PRÆTORIA. See *Aosta*.

AVERSA, Italy.

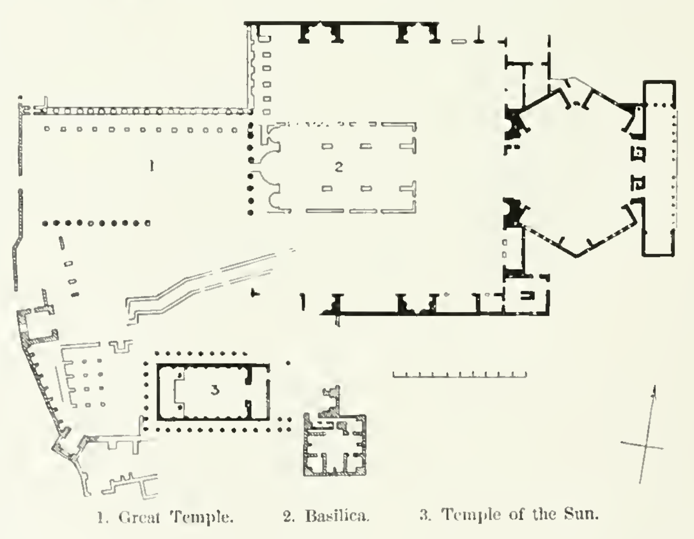
The CATHEDRAL, dedicated to S. Paolo, is a great cruciform church of the XI cent., about 90 ft. wide and 300 ft. long, the length of transept about 150 ft. The nave, 45 ft. wide and 70 ft. high and vaulted, is separated from the aisles by arcades of five bays. Over the crossing is an octagonal dome, of which the drum is decorated by two ranges of arcades on columns, and a corbelled cornice. The high apsidal choir is encircled by a semicircular aisle in nine groined bays with three apses opening from it. The vault-ribs spring from columns. The tower attached to the flank of the church belongs to the XV cent., and consists of four stories with a small cupola.

AXIA. See *Castel d'Asso*.

BAALBEK (anc. Heliopolis), Syria.

CIRCULAR TEMPLE, east of the Acropolis, in the modern village. The cella is surrounded by eight wide-spaced, graceful, unfluted monolithic Corinthian columns, whose rich entablature is recessed in semicircular arcs. In front is a tetrastyle portico, with a flight of steps before the door. Beneath the entablature the cella is surrounded by a frieze of garlands. Between the columns are well-proportioned arched niches with shell-shaped heads. In the interior are five niches, one with a triangular pediment, on Ionic pilasters. This temple was formerly used as a Greek church.

GREAT TEMPLE, of Jupiter or of all the gods of Heliopolis. It rose behind and in the axis of the propylæa and two forecourts. Six enormous Corinthian columns of the south peristyle alone remain standing, with their entablature. The columns are unfluted, about 60 ft. high and 7½ ft. in diameter, the shafts formed of only three drums, the capitals and the details of frieze and entablature of heavy and unrefined design. The basement, in massive masonry, rises about 50 ft. above the surrounding plain. The temple had nineteen columns in each flank and ten in each front; nine were still standing in 1751. The plan measured 160 ft. by 290 ft. (*See Fig. 29.*)



1. Great Temple. 2. Basilica. 3. Temple of the Sun.

Fig. 29.—Baalbek, Roman Ruins.

PROPYLÆA OF THE GREAT TEMPLE. The platform of the exterior portico is a

rectangle about 260 ft. wide and 36 ft. deep, the floor of which is 19 ft. higher than the ground in front. It was no doubt approached by a flight of steps, now gone. It consisted of twelve columns in two rows, the bases of which are still in place. On two of the bases are inscriptions commemorating the dedication of the temple by Antoninus Pius and Julia Domna. The portico is flanked by tower-like buildings with square chambers adorned with pilasters. In the wall behind the colonnade are three portals, the largest 23 ft. wide and the small ones 10 ft., which open into a hexagonal court about 249 ft. by 195 ft.; it was ornamented with niches and square exedræ, now for the most part destroyed. A triple portal afforded communication between the hexagonal court and the chief court before the temple, which was 440 ft. from east to west, and 370 ft. from north to south. This court has recessed covered exedræ on the north, east, and south sides. Exedræ and walls are ornamented with unfluted Corinthian pilasters with their entablature, between which are two tiers of niches, the upper with triangular pediments, and the lower arched. In the middle of the court is a large rectangular raised platform of masonry, perhaps the stereobate of a basilica. The masonry of the court is in large blocks, and the decoration, though of florid and debased style, is rich in effect.

Temple of the Sun, the smaller of the two chief temples, south of the Great Temple, on a platform of its own, which is lower than that of the Great Temple. As usual with Roman temples, it stands on a basement with a flight of steps between piers in front. It is Corinthian, with unfluted columns, octastyle, with fifteen columns on each flank, its peristyle 117 ft. by 227 ft. Several columns of the peristyle are standing, 10 ft. from the walls of the cella on the sides, and 46½ ft. high. The ceiling was coffered with hexagons, rhomboids, and triangles, elaborately sculptured with busts of gods and with foliage ornament. The pronaos, 25 ft. deep, had six fluted Corinthian columns in front and one on each side before the pilastered antæ. The portal is well known, with the huge central block of its lavishly sculptured lintel slipped down for half its height, and now supported by a modern pier of masonry. On each side of the door, spiral stairs ascend in the thickness of the wall. The cella, originally vaulted, is about 87 ft. by 74 ft.; its walls remain especially perfect on the north side, which has eight engaged, fluted Corinthian semi-columns supporting square projecting blocks of entablature. The architrave is Corinthian, the frieze has Doric triglyphs, and the cornice is of the most florid and elaborate character. Between the columns are two tiers of niches, those of the upper tier with low triangular pediments, those of the lower arched. There is a raised platform or sanctuary at the west end, with steps and two massive pillars, and a vaulted crypt beneath the cella. The portico is graceful and well proportioned, though the ornament of the building is much too lavish. The material is a whitish or yellowish granite except the decorative parts, which are in white marble. As in the normal Roman temple-plan, there is no opisthodomos.

The Walls of the city are about four miles in circuit, but are evidently for the most part a hasty restoration roughly built up of architectural fragments and other incongruous materials. They now stand from 10 ft. to 12 ft. high, and have square towers at intervals. The gate on the north side is the only one that is fine or seems to preserve its original form. The enclosing wall of the Acropolis on the north, in front of the platform of the Great Temple, is 10 ft. thick and contains in its height of 19 ft. nine courses of blocks, each block about 30 ft. long. In the western stretch of this same wall, at a

height of 19 ft., are the three famous great blocks, 13 ft. high, and respectively 64 ft., 63½ ft., and 62 ft. long. It may be from these three blocks that the temple had its epithet *trilithon* (three-stoned). The substructions of the wall are squared but not smooth-faced; the higher parts are in drafted masonry.

BAALSAMIN, Hauran, Syria.

TEMPLE, built in 23 B.C. It faces the east, is 61 ft. deep and 64 ft. wide, with a recessed entrance portico 31 ft. wide, between antæ. The outer division of the interior, into which the portico opens, is 17 ft. deep. The temple stands in a rectangular enclosure 167 ft. deep and about half as wide, entered unsymmetrically on the east side by a great door between towers or pylons. The door opens on a paved square court before the temple, which court is surrounded by porticoes on all sides except that toward the temple. This temple is to be compared in its disposition with the temple of Solomon at Jerusalem.

BACOLI (anc. Bauli), Campania, Italy.

PISCINA MIRABILIS, a great Roman covered reservoir on the hill south of the town. It measures 230 ft. by 85 ft., and has a vaulted roof supported by forty-eight robust cruciform piers, in four ranks. It is entered by two flights of forty steps, at the two ends. The reservoir forms the termination of the Julian Aqueduct. There are abundant remains by the shore of the ancient Roman villas of this favorite imperial resort. The Cento Camerelle or Carceri di Nerone, a group of subterranean vaulted chambers on the height, in reticulated masonry, are held to belong to the lowest story of the villa of Julius Cæsar and Augustus.

BAIA (anc. Baiae), Campania, Italy.

The TEMPLE OF DIANA, so-called, is a large octagonal structure, circular within, with a pointed dome 96 ft. in span, in part fallen. There are four large niches in the walls. Portions of the water-conduit identify it as a bath. The upright portion of the wall is in *opus incertum* encased in alternate courses of brick and tufa; the dome is in small stones laid in horizontal courses, bound together and sustained by their excellent mortar. Its thickness is about 4 ft.

TEMPLE OF MERCURY, so called. The main portion is a circular building 144 ft. in diameter, with a domed roof which, like that of the Pantheon, has an opening at the apex and four arched niches in the walls. It is undoubtedly the frigidarium of a bath. With the rotunda communicate two other structures, both rectangular and with barrel-vaults. The vault of the chief of these, no doubt the apodyterium, or disrobing apartment, is ornamented with pleasing reliefs.

The TEMPLE OF VENUS, so-called, is octagonal without and circular within, 94 ft. in interior diameter, and has a vaulted ceiling. It has eight windows in the upper part, four doors below, and remains of lateral chambers with flights of stairs. It is evidently a portion of an ancient bath. The masonry is *opus incertum* with casing of brick and *opus reticulatum*. The wall is strengthened with buttresses one-tenth as deep as the span of the vault.

Many fragmentary foundations remain of the splendid Roman villas and baths. The most conspicuous antiquities are three considerable colonnades which belonged to the different baths.

BAKUSA, Syria.

The CHURCH is a basilica of the Syrian type (see *Hauran*) 90 ft. long by 60 ft. wide. A narthex with a triple arched entrance crosses the west front. It has a nave and aisles of six bays, round-arched arcades on Corinthianesque columns, and an eastern apse recessed between the half-gabled ends of the aisles, which are occupied, as is usual in this region, by two square chambers. The roof was of wood; a close range of arched windows formed



ATHENS—THE ACROPOLIS







the clerestory, and the apse was decorated with a row of colonnettes on corbels close under the cornice. Four gabled porches, each with a pair of columns, covered four doors in the two aisles, as at Ruweiha (*q.v.*).

BALBOURA (Katara), Asia Minor.

THEATRE, on the south side of the Acropolis hill. The exterior diameter is about 120 ft.; there are sixteen tiers of seats curiously interrupted in the centre by a great mass of the solid rock of the hill, the middle of which is hollowed out as if for a chair or throne. There is no trace of a raised stage, but there is a platform on the same level with the orchestra, supported at the back by a high wall of polygonal masonry, strengthened by buttresses. There is a second ancient theatre on the site, together with the remains of several temples, and other ruins.

BARI, Italy.

The CATHEDRAL, dedicated to St. Sabinus, is an interesting Romanesque basilica of **T**-shaped plan originally dating from the IX cent., but much changed by repeated restorations and partial rebuildings. Its breadth is about 90 ft. and its length about 180 ft. The nave, some 37 ft. wide, is separated from the aisles by eight columns on each side, of marble and granite, now concealed beneath a covering of stucco, and supporting round arches. The nave is covered with a modern wooden ceiling, the aisles are vaulted each in nine groined oblong bays, with a well-developed upper gallery or gynæceum. The projecting transept is divided by two great arches continuing the line of the nave arches, into three square bays, the central one covered by a low octagonal lantern and backed by a semicircular apse. A staircase at the end of each aisle leads to a fine crypt, or lower church, under the transept, divided by columns into nine aisles, each of four square groined bays, with an apse corresponding to that above. The front, divided by flat pilasters, follows the outline of the nave and aisles; the central division has the remains of a great rose window, and a plain gable with a small rose above. The side elevations are perhaps the most interesting portion of the church. The aisle walls are high, with a blind arcade of nine round arches on thin pilasters, with a plain doorway under the middle arch, that on the south side being covered by an open projecting porch of three groined bays. Above the blind arcade runs an eaves-gallery of small round arches in groups of six, divided by slender shafts. The clerestory has single round-headed decorated windows, and a thin decorated cornice. The transept ends have high gables—the blind arcade of the aisles is carried through in smaller coupled arches under bearing arches, and with two stories of two-light arcaded windows above and a small decorated rose in the gable. The windows of the second story have projecting sills flanked by corbels bearing lions. The east end is perfectly flat, the apse being only an interior feature, and the arcades and windows of the transept are continued here across the church. In the centre is a single broad round-arched window, lighting the apse, with jamb columns resting on elephants. At each end of the unbroken wall rose originally a lofty angle tower about 21 ft. square, of which that at the south was destroyed in 1613 and has not been rebuilt. The other is complete; its height of about 212 ft. is divided into six stories of arched windows variously grouped in two, three, or four openings, with a decorated cornice and battlement; and above, a smaller square lantern in two stories with pyramidal roof. The lantern at the crossing shows externally as a high octagonal wall divided by slender shafts, with an arched corbel-table, and a broad, richly decorated frieze of Byzantine character, above which shows

only a segment of the dome. The original church, as old as the IX cent., was substantially rebuilt about 1034. Partially destroyed by the Saracens it was again rebuilt and consecrated in 1171, and again in 1292. A final restoration in the first half of the XVIII cent. left little of the interior untouched. Portions of the transept and of the east end are believed to belong to the original construction.

S. GREGORIO is an old Romanesque church of the XI cent., probably nearly contemporary with the two greater churches of that town, but perhaps somewhat older. Its plan is a rectangle about 45 ft. by 65 ft., with three eastern apses; the nave is covered by a wooden roof and separated from the aisles, which are groined in square bays, by six narrow stilted round arches on each side, springing from simple round columns, but divided by square piers into two groups of three arches each. Over these is a plain clerestory wall with three small round-arched windows on each side. The front, following the outline of the interior section, and divided by flat pilaster-strips, has one high and simple round-arched doorway, under three single round-arched windows, and in the gable a blind arch enclosing a square window over an arcade and set about with grotesque heads in the form of corbels. Each side compartment has only one small round-arched window, high up and filled with pierced marble slabs in a geometrical pattern.

S. NICCOLÒ, a Romanesque church of striking design, believed to have been in existence as early as the beginning of the IX cent., but in its present form dating from the end of the XI cent., when in 1087–89 the crypt was prepared to receive the body of the saint, Nicholas of Myra in Lycia. The upper church was finished about 1100. It is about 200 ft. long and 110 ft. broad, and in size and general plan is much like the cathedral, having a nave about 38 ft. wide, separated from two-storied aisles about 20 ft. wide by six round arches on each side springing from antique granite shafts with composite capitals. The aisles are in six square groined bays, with three rectangular chapels on each side, and two recessed porches. The upper aisles have fine high arcades divided into groups of three round arches on columns, under round bearing-arches, above which is an arched corbel-table and string-course, and a clerestory with small single-arched windows under a flat roof of which the decoration is modern. The disposition of the nave is peculiar, its length being halved by a great round transverse arch, and the western half being bridged by two similar arches which spring from columns set just inside the nave columns, but rise only to the aisle galleries. The nave is separated from the transept by a screen of three round arches on Corinthian columns, similar to those of the nave, and the transept arms are screened off by the choir stalls. The crossing forms the choir, now modernized, ending in a round vaulted apse. Its floor is raised by three steps above the nave, and the altar is covered by a square ciborium, in which four angle-columns with figure-capitals carry an octagonal canopy of two diminishing stories of stunted shafts. The end walls of the transept are flat, their upper parts pierced with two stories of two-light arched windows. From the end of each aisle a stair descends to a noble crypt extending under the whole transept, divided by columns into square groined bays, with four windows at each end, and a round apse in the middle under the choir apse. The capitals of the columns are extremely varied and interesting, with remarkable Byzantine sculpture. Of the exterior the façade is the most interesting portion. It is divided by broad pilasters into three compartments, corresponding in outline to the nave and aisles, with a central gable and half-gables, all bor-

dered by arcaded eaves-cornices. The central arched doorway has a gabled porch borne by octagonal columns resting on the backs of beasts which themselves rest on corbels. Its sculpture is remarkable, showing bands of Byzantine flat ornament, figures of angels, and in the tympanum the figure of a saint. A blind arcade of coupled arches crosses the front. Above, in each compartment, is a standing figure of a saint in a niche, and still higher, two-light windows with mullion shafts. The front is flanked by square towers, both unfinished: the northerly one in two stories, with plain, round-arched doorway below and panels above, arched corbel-table and horizontal cornice. This church is the centre of the cult of St. Nicholas. His body was pilfered from Myra in 1087 by Barian merchants, and Urban II. came to deposit it in the crypt in 1089. The council of 1098 was held in the church. (*See Fig. 30.*)



Fig. 30.—Bari, S. Niccolò.

BARLETTA, Italy.

Sta. Maria Maggiore, or del' Assunzione, the chief church of the town, is an ancient Romanesque building presumed to have been founded before 900, but rebuilt in the XII cent., and enlarged at the beginning of the XIV. A sharp dividing line is drawn, particularly in the interior, between the architecture of the earlier church and that of the addition. The length of the two portions is nearly equal; the western half is Lombard in character, with four round arches on each side springing from antique columns of marble with attic bases and mediæval Corinthian capitals with stilt-blocks. Above these is an upper gallery with coupled round arches, over which is a clerestory wall with single small windows under a wooden roof. The eastern half is distinctly Gothic, with groined nave and aisles separated by four high pointed arches on each side, of unequal breadth, springing from grouped piers, with vaulting shafts. There is no triforium, and a single small pointed window pierces the clerestory wall in each bay. The choir ends in an apse with five pointed arches opening into as many radiating vaulted chapels, and with a single pointed window over each arch. This apse is a very unusual instance in

southern Italy of the use of the northern Gothic forms and construction. The façade, narrow and high, following the



Fig. 31.—Barletta, S. M. Maggiore.

outline of the interior, is divided into three compartments, each with an entrance doorway. Those of the side compartments are old, with grotesque sculpture, and over each is a two-light shafted window surrounded by a triple border of decoration. Over the modern central doorway is a large early enriched window with jamb-columns and a rose in the gable above. An arcaded corbel-table follows the rake of the cornice of the whole front. The fine tower is of the XII century. (*See Fig. 31.*)

BASSAE. See *Phigaleia.*

BEHRAM. See *Assos.*

BEISAN (anc. Beth-Shean), Palestine.

ROMAN THEATRE, on the south side of the hill. It is about 180 ft. in diameter, and twelve tiers of seats are visible. The cavea is supported on vaulted galleries built of good masonry in basalt. The interior passages and the outlets are well preserved. It is said to have recesses for the *echea* or acoustic vessels described by Vitruvius.

The Roman remains are considerable, and include, besides the theatre, portions of the massive walls, with a fine arch flanked by Corinthian columns which probably belonged to one of the gates, and ruins of several temples with walls and stereobates of basalt and marble columns, about two dozen of which are still standing. To the N.E. of the hill is a necropolis with rock-tombs, some of them closed by hinged stone doors and containing sarcophagi. There is also a fine Roman bridge.

BELLA PAIS, Cyprus.

The BENEDICTINE MONASTERY, though ruined, is an interesting and solitary example of a monastery in this part of the world. There remain the small Gothic

church with three sides of the cloister, here set on the north, probably owing to the character of the ground, and surrounded by the conventual buildings. The Gothic architecture is of the XIV cent. or later. The church consists of a nave and aisles of three bays, a short transept, and a square chancel. Before the west door is an open arcaded porch. The transept arms are covered with a barrel-vault, the other vaults being groined. The cloister was surrounded by broad arches with complicated tracery. Against its eastern side were a chapter-house and dormitory, and on the north is a fine vaulted hall, probably the refectory.

BENEVENTO, Italy.

The CATHEDRAL of Sta. Maria is one of the most ancient of Lombard churches of South Italy, though repeated restorations and rebuildings have left little of the early architecture. The remains of a colonnaded atrium are to be seen before the front, which is the most interesting portion. It is in two stories of blind arcades, seven round arches in each story, those of the first story high, on broad flat pilasters; two of the arches having a lozenge in the head, after the Pisan manner. There is a central doorway with pilasters carrying a broad lintel and tympanum under a round bearing-arch, the whole covered with decoration of Byzantine character. The second story has a bolder arcade carried on low columns with curious capitals. The fine bronze doors with reliefs in the panels date from 1150, but were restored in 1693. Above is a horizontal Renaissance cornice, over which appears the flat bare face of the nave, with a low gable. At the north angle of the front stands a large square detached bell-tower, plain below, with a band of small antique sculptured figures across the face, a strong corbel-table, surmounted by a square belfry with a single two-light arched opening in each face. The interior is five-aisled, a T-shaped basilica in plan, with close-set rows of fluted columns, fifty-four in number, with Roman Doric capitals, carrying round arches and an entablature. The clerestory wall is very corrupt in style and is pierced with round windows. The nave is covered by a flat panelled ceiling, and ends in a triumphal arch. The transept does not project beyond the aisle walls, and has a round central apse with semidome. The interior was, with the exception of the arcades, completely modernized in the XVII century. Two fine pulpits about 10 ft. square, supported by columns of black marble and granite with decorated shafts standing on monsters and with capitals in which the leafage is varied by figures and heads, date from the XIV century. The original cathedral, founded as early as the beginning of the VII cent. and destroyed by an earthquake, was rebuilt and finished in 1047. Parts of this building still remain, notably the arcades of the interior and the lower portion of the front—the remainder of the exterior belongs to the period between 1114 and 1279.

STA. SOFIA is an early Romanesque church, with a peculiar plan, consisting of a circle about 75 ft. in diameter, of which on the exterior the western third is cut off by a long rectangular narthex with a frontage of about 105 ft. Within is a central hexagon formed by six antique Corinthian columns supporting round arches, from which rises a dome. The space outside the central hexagon is divided by a ring of ten columns into two circular aisles, of which the bays are covered by vaults of various forms, triangular, trapezoidal, and domical. At the east opens a square tribune. The exterior has much of the Lombard character. The west front has a blind arcade, with lozenges in the arch-heads, and a central door, flanked by Corinthian columns carrying an architrave, over which is a round bearing-arch with tympanum charged with sculpture on a ground of

gold mosaic. The building has suffered much from repeated earthquakes and consequent restorations. The church be-



Fig 32 —Benevento, Trajan's Arch.

longed to a convent, first of nuns, then of Benedictine monks. The adjacent cloister has an arcade of some sixty columns with varied and partly grotesque capitals, mostly with stilt-blocks.

The Roman TRIUMPHAL ARCH, which once spanned the Via Appia, now serves as one of the gates of the city, and is commonly called the Porta Aurea. It was built, A.D. 114, in honor of Trajan, by the Roman Senate and people, according to the inscription on the attic on both faces. It is one of the finest and best preserved of all ancient triumphal arches. The front is 48 ft. high by 30 ft. 4 in. broad, pierced by a single arch 16 ft. 4 in. by 26 ft. 9 in. high, with two Corinthian fluted columns on each side supporting an elaborate entablature; above is an attic in three compartments, the middle one inscribed. Each front is decorated with a frieze and several superimposed bands of sculptures, representing the Dacian wars, the Emperor's triumphs, etc. These sculptures are not excelled by any other extant specimens of Roman art. In the spandrels of the arch are Victories. The material is white marble. (*See Fig. 32.*)

BERGAMO, Italy.

The BROLETTO, a small but beautiful example of the mediaeval town-halls of North Italy. It is a Gothic building of stone supported wholly on detached piers and columns with pointed arches, the first story being open to the street on all sides, with groined vaulting. The front on the square presents three arches springing from broad square piers with foliated capitals. The second story wall is pierced by three large three-light windows, the two at the sides with tracery and mullion-shafts under pointed arches. The central window, apparently rebuilt, is flanked by Renaissance columns, with a rude order of columns and entablature above. It has a large balcony which marks it as the ringhiera, from which the magistrates were accustomed to address the people. The building dates probably from the XIII cent., and groups picturesquely with the church of Sta. Maria Maggiore, the clock-tower and an open staircase forming the approach to the upper stories of adjoining buildings.

CAPELLA COLLEONI, the burial chapel of the great Condottiere, dates from 1476, and stands on the north side of the church of Sta. Maria Maggiore, to which it is attached. It has an extravagantly decorated façade, incrusted with a mosaic of marble in geometrical patterns and with an open arcaded gallery at the summit of the wall; the whole surmounted by an

octagonal dome raised on a three-story tambour. The interior is decorated with frescoes, chiefly by Tiepolo, and contains several notable monuments, among which that of Bartolommeo Colleoni himself, profusely ornamented with bas-reliefs and surmounted by his statue, and that of his daughter Medea are the most remarkable.

STA. MARIA MAGGIORE is an early Romanesque church, cruciform in plan, and of simple exterior, with high walls and flat gables, windows small and plain, flat buttresses, corbel-tables under the cornices and following the rake of the gables, a tall square campanile at the angle of the north transept with the choir, and an octagonal lantern at the crossing. The church has undergone extensive alterations and is now chiefly interesting on account of its two porches at the transept doorways, very elaborate compositions, of which that on the north is the more remarkable. It consists of a broad and lofty round barrel-vaulted projection supported by two slender white marble columns resting on lions. Above this is a sort of loggia, with three pointed and cusped arches. The loggia is groin-vaulted, and minutely decorated with panels and inlay of black, red, and white marbles; under it are three statues, of which the central one represents the Duke Lupus on horseback. Above is an inferior third story, a square open niche, with a high pyramidal roof. The interior of the church has been almost entirely modernized. Its five apses, on choir, transept, and aisles, still remain substantially in their original form. The church belongs originally to the first half of the XII cent.; the porches are two centuries later—an inscription on one of the stones giving the date of 1349–50, and the name of the architect, Johannes di Campilio.

BETHLEHEM, Palestine.

CHURCH OF THE NATIVITY, or of St. Mary. The tradition is that this basilica was built by the Empress Helena, mother of Constantine, over the place where Christ was born. It lies on the northern slope of the hill on which Bethlehem is built, almost buried between the Latin convent on the north and the Greek and Armenian on the south. In front of it is an open paved square, once apparently the atrium of the basilica, from which the enclosing colonnade has disappeared. The façade is crossed by a low narthex or vestibule below the plain gable of the nave. It is a double-aisled basilica, with transept and choir extended to the eastward, but differs from the Latin basilicas in having an apse not only at the east of the choir, but at each end of the transept. The narthex has been cut up into rooms, only the middle door being now open to the church, and that made as small as possible, for defence against wandering Arabs. The interior length is about 190 ft., but is blocked by a hideous wall with a triangular-headed opening which the Greeks built about fifty years ago, to cut off the choir and transept from the nave. The nave and aisles, eleven bays long, are divided by four rows of Corinthian columns 19 ft. high. Those next the nave carry an architrave which supports a high clerestory wall, pierced high up with round-arched windows, above which is a rough open timbered roof of the XVII century. The nave is about 34 ft. wide and 50 ft. high to the feet of the rafters, and well lighted; the aisles are low and dark, being covered by a flat ceiling which rests on the architrave over the columns, and there is no triforium or gallery. The whole of the wall has been covered with rich mosaic on a gold ground, provided during the occupation of Palestine in the XII cent. by the Greek Emperor Comnenos Porphyrogenetes. This divided the unbroken part of the wall into two bands, the lower occupied by half-length figures of the ancestors of Christ, the upper by records of the early councils of the Church in panels, and conventional representations of the church-buildings

of the cities where they were held, separated by elaborate panels of scroll foliage. Between the clerestory windows are figures of angels. Much of this has disappeared, but enough remains to show the former splendor of the building. The nave is as wide as the two aisles on either side, and the transept is as wide as the nave. The aisles reappear in one bay beyond the transept, and the order of columns is carried about the choir and transept; but here it bears a complete Corinthian entablature. From each side the choir steps lead down to a large and rambling crypt, where are shown, directly under the centre of the choir, the cave or grotto in which, it is said, Christ was born. Near by is the manger in which he was laid. These parts of the crypt are lined with marble and lavishly adorned. There is also, converted into a chapel, the chamber where St. Jerome passed many years of seclusion and composed most of his writings. There is no one of the sacred buildings of the Holy Land of which the history can be so uninterruptedly traced, or which has been

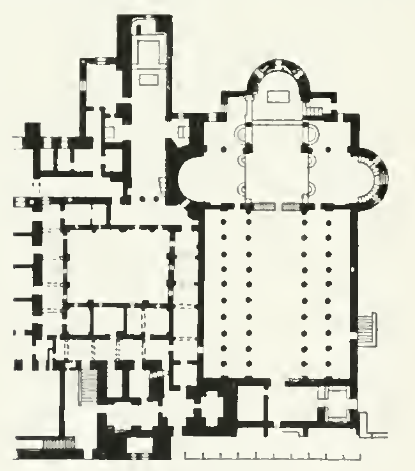


Fig. 33.—Bethlehem, Ch. of the Nativity
Scale of 100 feet.

apparently so little changed. Eusebius says that Helena, visiting the Holy Land, decorated the place of the Nativity, and that Constantine built there one of the three splendid edifices that he raised in Palestine. The early writers of the Church and many pilgrims have left descriptions which indicate its continued existence. In the VIII cent. appears for the first time a story that the basilica was rebuilt by Justinian. Some modern authorities have thought this verified by the triapsidal arrangement of the choir, but examination seems to show that the church is homogeneous, and that the colonnades of the nave, and especially the treatment and execution of the order that is carried round the choir, cannot be so late as Justinian, or indeed later than Constantine. (*See Fig. 33.*)

BETH-SHEAN. See *Beisan*.

BET JIBRIN (probably anc. Eleutheropolis), Palestine.

The Roman remains are extensive, a great part of the modern houses incorporating ancient walls, columns, etc. Parts of the ancient walls survive. A fort on the N.W. has towers at the angles. The cliffs in the neighborhood are full of rock-chambers, round, and vaulted, the vaults being supported on detached pillars. They are 20 ft. to 25 ft. in diameter and 30 ft. to 40 ft. high, and lighted by a shaft from above. These chambers were probably intended for dwellings, for which purpose and for stables some of them now serve.

BIEDA (anc. Blera), Etruria, Italy.

Ancient Bridges. One, of a single arch of 24 ft. 3 in. span, in masonry of large square blocks without mortar, part in alternate courses of headers and stretchers, the lowest courses drafted, is Etruscan. This bridge is interesting in that on one side the rock rises to the height of the impost and is hewn to the form of a pier, while the pier on the opposite side, where the ground is low, is wholly of masonry. The other bridge, of three arches, has Etruscan piers, but the arches are Roman. The original Etruscan bridge doubtless had a superstructure of wood. The span of the largest (central) arch is about 30 ft.

Necropolis. In the cliffs bordering the high tongue of land on which the ancient town stood, there is an extensive Etruscan necropolis hewn from the rock. There are numerous artificial caverns, in terraces, with pedimented architectural façades of varied decoration; many of them imitate ancient habitations somewhat in detail, and some fallen blocks are hewn into the form of isolated houses. It is usual in the interior to find the square ridge-beam of the roof and the rafters carved in relief. There is often a window on each side of the door.

BIELLA, Italy.

The Baptistery is a singular little building of historic interest. Its plan is a square with a semicircular domed apse on each face, out of which the upper wall rises, still square within but with each side thickened in the middle, so that it becomes octagonal without and supports, with the help of corbelling in the angles, a hemispherical dome, of which the crown is about 34 ft. above the pavement. The drum is finished by a large arched corbel-table and a low roof over the dome, which, as well as the roof of the apses below, is covered by the stone tiles laid directly on the masonry of the vaults, no wood being used in the construction. This building is almost identical in structure with the little chapel of Ste. Croix at Montmajour near Arles. Count Mella, in the absence of authentic records, considers it to belong to the VIII or IX century.

BITETTO, Italy.

The Cathedral, founded early in the IX cent. and dedicated to St. Michael, was substantially rebuilt, according to an inscription on the façade, about 1335, though certain portions of the exterior probably belong to an older construction. The façade, which follows the outline of the nave and aisles, has a rich pointed middle doorway, consisting of a square-headed opening with sculptured tympanum and decorated archivolts, borne by flat pilasters and short columns resting on grotesque beasts, with fantastic capitals and with stilt-blocks.



Fig 34.—Bitetto, Cathedral.

Above is a round-arched two-light window, and in the gable a fine rose, between slender colonnettes on corbels carrying a broad decorated archivolt. The side compartments have plain door-ways with tympana, and two-light windows above. At the left of the façade is a tall modern tower with successive belfry stages, leaning against the dome of a modern chapel behind it. The interior has a nave and aisles separated by arcades of mingled round and pointed arches springing from square piers with a half column on each side and an apsidal choir. The nave has a

wooden ceiling; the aisles are groined in square bays. (*See Fig. 34.*)

BITONTO, Italy.

The CATHEDRAL, dedicated to St. Valentine, is believed to have been founded in



Fig. 35. Bitonto, Cathedral Pulpit.

the IX cent., but in its present form is probably not older than the early part of the XII century. Its plan is a rectangle about 80 ft. broad and 160 ft. long. Of this length about one-third is given to the undivided transept, of which the eastern wall is recessed in three flat apses, not showing on the exterior. The remaining length is divided into a nave and aisles with two ranges of lateral chapels. The nave is bordered by six arches on each side supported by columns, and divided into two groups of three by a pair of compound piers. The chapel on each side next the transept is replaced by an open recessed porch. The whole interior is modernized, with tunnel-vaults in nave and transept, and a great order of Corinthian pilasters, all in stucco. A crypt extends under the transept. The exterior is of great interest, and is perhaps the best existing example of the modification of the Lombard forms in the south of Italy. The front shows a gabled nave between two lean-to aisles, with three doorways under round arches and tympana, coupled arched windows over them, and a handsome rose in the central gable. The central door is a richly decorated portal, enclosed in two bands of foliage, between slender shafts resting on lions, with tall capitals supporting griffins. The rose-window in the gable is flanked by two slender columns on corbels supporting figures of lions, from which springs a sculptured hood-moulding. The flanks of the church are also interesting. The aisle walls have a blind arcade, continued round the transept and east end, with a single, narrow, round-arched window in each arch. At the top of the wall and above the eaves is an open arcaded screen with round arches in groups of six, on columns. The clerestory, divided by slender engaged shafts ending in an arched corbel-table, had small round-arched windows irregularly disposed, which are now blocked up. (*See Fig. 35.*)

BLERA. See *Bieda*.

BOGHAZ-KEUI (Pteria), Asia Minor.

HITTITE PALACE, founded on an artificial terrace, and in other ways presenting close analogies with Assyrian structures of similar character. The foundations form a parallelogram, 187 ft. by 138 ft., of large,

irregular blocks of stone, secured together by iron cramps. The superstructure was in brick. The disposition of the rooms is of the usual oriental type. The chief gate is an independent structure or pylon 59 ft. deep: two lion-heads project on either side of the door above the lintel. Near the palace are remains of other buildings as well as of the city walls about two miles in circuit, and the rock-reliefs called *Iasili Kaïa*, or the Inscribed Stone. The Hittite art is not an original art: it is derived from the Assyrian, which it follows more or less rudely and closely, modified by influences akin to the Phœnician, and with local elements, such as the usual high tiara and upturned shoe, and other details of costume. Remains of this art abound in the northern half of Syria and in southeastern Asia Minor.

BOLCASCOOE (Bolkazkeui). Asia Minor.

ROMAN THEATRE, remarkable for its admirable preservation. At the top the stone sockets for the awning-poles are still in place. The interior is described as practically perfect, together with the vaulted substructions. The cavea is surrounded above by an arcaded gallery, whose arches rest on brick columns coated with stucco; the columns have ornate capitals. The wall at the back of the stage stands entire, and is profusely ornamented with rectangular niches, a balcony, and other features, in white marble: the sculpture includes heads, masks, flowers, dolphins, animals, and eagles. The faces of the walls were coated with white stucco bearing designs in red, marked out in black; the interior of the niches was light blue, and color remains also on the masks.

BOLOGNA. Italy.

BAPTISTERY. See *S. Stefano*.

CASA DEI CARACCI. A small palace of the XV cent. in brick and terra-cotta, presumed to have been occupied at one time by the painters of that name, and remarkable for some unusual features of design. It has a high battering stone basement, from the upper part of which project great brackets bearing broad arches of brick with decorated archivolts, which carry the wall of the upper stories. Above the arches a string-course of terra-cotta bears a range of round-arched two-light windows with pilasters and decorated archivolt. There is a low third story with round windows in the frieze of a richly decorated cornice.

CORTE DI PILATO. See *S. Stefano*.

FORO DEI MERCANTI. See *Mercanzia*.

MADONNA DI GALLIERA. A small Renaissance church of the XVII cent., with a worn stucco façade of much beauty. It is in two stories, separated by an enriched entablature which crosses the front, being carried by Corinthian coupled pilasters at the corners, and broken over detached columns by the great central door, whose arch, flanked by decorated pilasters, rises into the second story and is covered by a pediment. In the second story the angles are marked by two niches on each side, one above another, bearing statues, and the wall between is divided by slender fluted pilasters into three bays. The façade ends in a very heavy and richly decorated cornicione, beneath which is a broad frieze with niches and half-length statues.

MADONNA DI S. LUCA. An interesting modern church, built in 1731 from the designs of Dotti. It stands on the summit of a hill, the Monte della Guardia, some two miles from the town gate, and is approached from the foot of the hill by a continuous arcade, rather more than a mile in length, of six hundred and thirty-five arches, built between 1676 and 1730, and following the conformation of the ground, with occasional chapels. The church has a singular plan which may be described as a cross inscribed within an ellipse. The centre is bounded by four great arches which support a hemispherical dome raised on a drum and surmounted by a cupola. The

longer arms of the cross are semicircular, the shorter semi-elliptical. From the east-



Fig. 36.—Bologna, Madonna di S. Luca.

ern arm opens a square choir ending in an apse. At the west end of the church an open portico describes a curious reversed curve and terminates in two open pentagonal pavilions, from one of which the arcaded staircase descends to the town. The exterior view shows the high elliptical wall rising out of the midst of a square mass of surrounding buildings, with a low roof and the dome in the middle. The apsidal choir projects from the east end, flanked by a low square tower. (*See Figs. 36, 37.*)

La Mercanzia (Exchange). A small building of brick and terra-cotta built about 1294 as an exchange and called the Foro dei Mercanti. The characteristic part is an addition of 1387 and 1439, analogous to the broletti of North Italy. It consists of two stories, the first an open loggia, groined, with two high pointed arches carrying the upper wall, and two on the sides of the loggia, springing from grouped piers with large foliage caps, decorated archivolts, the spandrels ornamented with roundels containing sculpture. The second story, separated from the first by a decorated string-course, has two elaborate pointed and traceried windows divided by twisted shafts, and enclosed in broad frames of decorated mouldings. Between these two windows is an octagonal balcony or *ringhiera* with traceried panels, covered by a polygonal canopy with cusped arches under gables and a tall crocketed spire. The façade is finished by a rich cornice with quatrefoils enclosing shields, with an arched corbel-table below it and forked battlements. (*See Fig. 38.*)

Palazzo Bevilacqua. A xv cent. Renaissance palace of which the architect is not known, with a long and rather low façade in stories of bold rustic stonework, variously treated in different portions. The first story has two round-arched doorways, one with an order of decorated pilas-

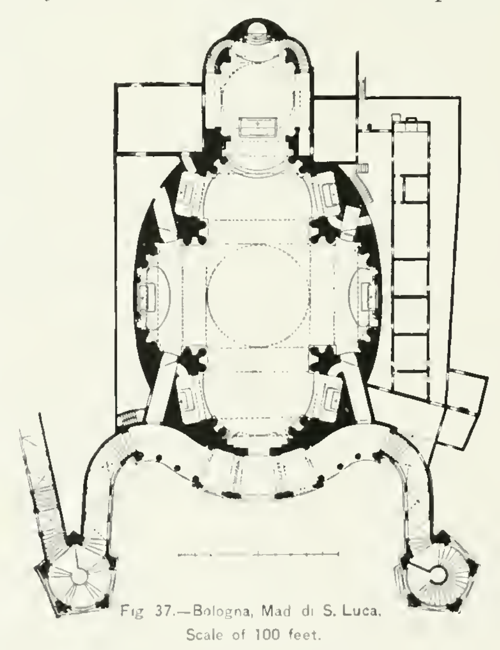


Fig 37.—Bologna, Mad di S. Luca. Scale of 100 feet.

ters and semicircular pediment, the whole enriched with delicate bas-reliefs, and small

windows with flat caps. The second-story has a range of round-arched two-light windows under enclosing arches, and separated by columns. An enriched entablature runs across the whole front in each story, and the upper cornice projects boldly on brackets. The fine interior court has two stories of vaulted round-arched arcades with Composite columns and entablatures, the upper arches being twice as many as those below. In this palace met the Italian members of the Council of Trent in 1547, after their schismatic adjournment to Bologna, as appears from an inscription in one of the rooms. (*See Fig. 39.*)

Palazzo Fava. A fine example of the brick and terra-cotta architecture of North Italy, with a façade of three stories—the first a high vaulted arcade of round arches springing from square piers with engaged columns on each side. The second story has a range of two-light windows with broad pilasters and round bearing arch; a very heavy and over-ornamented cornicione crowns the façade. On the sides of the interior court are two stories of round-arched vaulted arcades on composite columns, the upper arches one half the width of those below. The palace dates presumably from the XV cent., and is filled with frescoes by the Caracci. (*See Fig. 40.*)

Palazzo Isolani. An early Renaissance palace, probably of the XV cent. with a low façade in two stories, the first a round arcade with six arches on Corinthian columns, the second of six pointed arched windows, with fluted Corinthian pilasters and decorated archivolts, the arch-head divided into two delicate ogee arches with minute cusping, and with a roundel between, enclosing a head in high relief. The front is finished by a rich terra-cotta cornice with small deep arches on corbels, each enclosing a head.



Fig. 38.—Bologna, La Mercanzia.

Palazzo del Podestà. The old palace of the magistrates dates from the early part of the XIII cent., but its present façade was built as late as 1485. It is in two stories, the first an open arcade of round arches, springing from square rustic piers, faced with an order of engaged Corinthian columns, the second an order of flat Corinthian pilasters, and arched windows between, with pilasters and mould-



Fig. 39.—Bologna. Pal. Bevilacqua.

ed archivolts. There is a low attic with round windows. The plain square mediæval tower rises out of the roof, ending in a belfry with three-light and four-light windows in the faces, under a bearing arch, and crowned by square battlements. The interior has a great hall, 75 ft. wide and 170 ft. long, of which the original character has wholly disappeared under successive changes. The palace was for twenty years the prison of Hensius, king of Sardinia and natural son of the emperor Frederic II., from whom the great hall is still called the "Sala del Re Enzio."

S. FRANCESCO, a brick church, one of the largest of Bologna, and originally one of the finest, dating probably from the early part of the XIV cent., but in 1798 occupied as a Custom-house, and now much decayed and neglected. Its west front has been greatly changed, but retains its original doorway and the canopy over it. The east end has aisles and exterior chapels after the northern fashion, and the thrust of the choir vault is met by great flying-buttresses of rather awkward form. Two campanili stand near together on the south of the choir, of which the larger, dating from the XIII cent., has some good Gothic features, among others a belfry-stage with three-light windows with twisted shafts for mullions and traceried heads. The interior has a fine nave and aisles in seven bays, separated by pointed arches resting on octagonal columns, all in brick. The transept has been restored in the style of the original.

S. GIACOMO MAGGIORE. A Gothic XIII cent. church of brick, much modernized in recent times. Its façade is substantially unchanged and presents a single broad gable divided by pilasters into three divisions, the central one of which contains a doorway flanked by columns of red marble resting on lions and supporting a canopy. Above the doorway an ugly square window has replaced the original rose. In each side division is a closed-up window, divided by a shaft and with some good plate-tracery in the head. The cor-

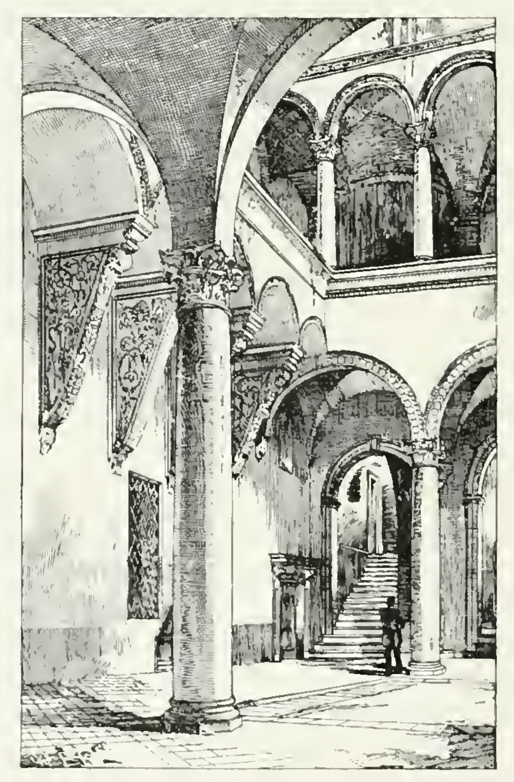


Fig. 40.—Bologna. Pal. Fava. Court.

nices are mostly of brick with portions in glazed terra-cotta, blue and green. The east end has a polygonal apse, each face containing a large window with steep gable over it flanked by pinnacles. To the S.E. of the nave stands a high Gothic campanile of red brick, in stories of equal height, with unfinished Renaissance belfry. The interior is quite modernized, but with fine effect. Three large dome-vaulted bays are separated by piers faced with Composite pilasters, carrying blocks of a rudimentary entablature which bear the great arches. These arches are filled, each with a screen of three sub-arches, borne on slight piers, and serving as the entrances to side-chapels. The transept is only simulated, and a dome covers the crossing. The choir terminates in a polygonal apse, and is surrounded by an ambulatory with a circle of chapels. The church was founded in 1267, and enlarged in 1497, but was never finished. The campanile dates from 1272.

S. Petronio. This church, one of the largest Gothic buildings in Italy, is yet but a fragment of what it was meant to be. The original design contemplated a cruciform church some 750 ft. long and 500 ft. across the transept, covering an area nearly as large as that of St. Peter's at Rome, and surmounted by a dome 130 ft. in diameter. The project was too vast for execution, and the existing church represents the nave only of this stupendous cathedral. Even in its fragmentary state it is, however, extremely imposing. Its exterior is unfinished. The great façade presents an immense surface of bald rough brickwork, only the doorways being completed. These are rather elaborate compositions, much decorated with sculpture. The flanks of the church are better, showing a noble high basement, above which are fine, broad, lofty four-light windows with traceried heads and gables separated by square buttresses. Within it is a five-aisled church of six bays, the outer aisles being divided into chapels, two to each bay, as in the Certosa at Pavia. The nave piers are like those of the cathedral of Florence—grouped, very low in proportion to the height of the nave, with high caps, and carrying extremely high pointed arches, above which in the clerestory are small round windows, cusped, but without tracery. Those members of the nave-piers which front the nave are carried up as vaulting-shafts to the spring of the groined vault, which is high and simple. The aisles are lighted by circular windows in a low clerestory like those of the nave; but the outer walls of the chapels are pierced with the large and beautiful windows above mentioned. The scale of the interior is prodigious, and was evidently determined upon the same theory which governed the design of the cathedral at Florence, and which has destroyed the effect of that church, the theory that grandeur is obtained by merely increasing the



Fig. 41.—Bologna, S. Petronio.

size of all the parts of a design without multiplying their number. The bays of the nave of S. Petronio are rather more than 60 ft. square. The nave, with only six bays, is therefore about 360 ft. long, while the breadth of nave and aisles is about 180 ft., and the crown of the nave vault is nearly 150 ft. above the floor. Many famous names are associated with the history of this remarkable church. Andrea Manfredi was summoned from Florence in 1382, and made the first design. In 1390, a model at one twelfth full size was built from the plans of Antonio Vincenzi, perhaps the largest architectural model ever made, and the cornerstone was laid during the same year, in the centre of the crossing, but the actual work was begun at the west end. The work was subject to frequent interruptions: Peruzzi, Giulio Romano, Vignola, and Palladio were successively brought in for service or consultation, and the building was carried on until 1659. (*See Fig. 41.*)

SS. Pietro e Paolo. See *S. Stefano.*

S. Sepolcro. See *S. Stefano.*

S. Stefano. A most curious and interesting group of ecclesiastical buildings,



Fig 42 Bologna S. Sepolcro (S Stefano).

the oldest in Bologna, of which the arrangement can best be understood from the plan. They were built at widely different periods, as is evident not only from the style but also from the varying levels of the floors. The dimensions are nowhere large, the whole group measuring about 250 ft. from east to west and 175 ft. from north to south. In the centre is the Corte di Pilato, so called, an open court or atrium with an open vaulted arcade on two sides, of plain round arches carried on grouped columns quatrefoil in plan, with simple block capitals. In the court stands an ancient font consecrated to the Lombard Kings Luitprand and Hildebrand, the former of whom died in 744. It has an interesting inscription. From the east end of this court opens the church of Sta. Trinità, of which the easterly part is perhaps the oldest portion of the whole group, and from the west end the octagonal church or baptistery of S. Sepolcro, so named from the tomb of S. Petronio which was built within it in the XII cent. in imitation of the Holy Sepulchre at Jerusalem. The faces of the octagon toward the court are unbroken except by a simple doorway in each face, and some small windows high up in the walls, but the walls are covered with a mosaic of brick and stone of a great variety of patterns. The interior of this building, which is as a whole the oldest of all these churches, is very singular. (*See Fig. 42.*) The central portion is twelve-sided, and the piers carrying the clerestory wall are partly large round piers with ancient capitals rude in design and execution, and partly slender coupled columns. They carry simple round arches, above which is the high clerestory wall with three-quarter shafts in the angles, resting on plain corbels and terminating in a cornice of intersecting arches. The surrounding aisle or ambulatory is irregular in shape and vaulted in compartments alternately square and triangular, somewhat suggesting the Rotonda at Brescia and the Münster at Aix la Chapelle. The columns at the angles are varied, mostly with capitals of more or less classic character.

South of the atrium is a cloister of two stories: the rude first story has low round arches supported partly by massive round shafts, and partly by slender grouped shafts set in a square and covered, like the larger columns, by a plain slab. The plain brick wall above the arches bears a later arcade of round arches on columns coupled in depth, with capitals of various and often grotesque design. The spandrels and the wall above are faced with a pattern of colored bricks. The wall is finished with a corbelled cornice. Adjoining the cloister on the west are two churches, one above another, of which the lower, called the Confessione, is presumed to date from the XI century. Its floor is below the level of the surrounding buildings, and the church, which was built above it in the XVI cent., is now connected with the older church of S. Giovanni west of it, to which it serves as a choir, its floor being reached by a broad ascending staircase. North of the baptistery and of the atrium is the church of SS. Pietro e Paolo, one of the oldest portions of the group, a distinctly Romanesque building with short nave and side aisles, three eastern apses, and a high clerestory. These divisions are plainly expressed by the front, which has however been recently restored. The projecting central porch is in two stages, first a round arch springing from square engaged piers with Byzantine capitals, and above it a shelf or balcony, bearing a sitting statue under a round arch on columns, with a high gable, and half gables on either side. The clerestory walls are divided by pilaster-strips against which are built strong triangular buttresses, with single round-headed windows between. The front of the baptistery has also been restored, but the original character is well preserved. The octagonal wall of the ambulatory is in two stories, with three round arches on each face below, and the second story plain, with angle-shafts running up to an arcaded eaves-cornice. In the middle face is a plain round-arched door. Above rises the plain clerestory wall with a diagonal pattern in brick, an

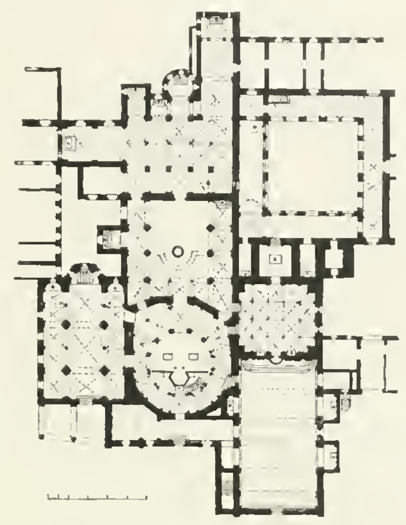


Fig. 43.—Bologna, S. Stefano, Plan.
Scale of 50 feet.

arched corbel-table under the eaves, and a low polygonal roof. The church of S. Giovanni, called also Il Crocefisso, which lies to the right of the baptistery and projects westward into the square, is much dilapidated. It has an unbroken gable covering the whole front, a low pointed central doorway and a row of single pointed arched windows above. On the northern corner of the front is a circular pulpit supported on bold corbels. Behind this church rises the high rude gable of the modern choir already mentioned, and at the south side a plain square brick campanile with two-light openings in the belfry and a flat roof. The history of this curious group of buildings is obscure. The earliest portions, now comprised within the church of Sta. Trinità, are believed to have been built on the site and perhaps from materials of a Roman temple of Isis, as early as the end of the IV century. The baptistery, perhaps first built in the III cent., was destroyed and rebuilt about 540. The

churches of Sta. Trinità, SS. Pietro e Paolo, and S. Giovanni probably date from about 750. Various restorations took place early in the XI cent., and a century later the buildings came into the hands of the Benedictines, by whom the arcades of the upper cloister were built. (*See Fig. 43.*)

STA. TRINITÀ. See *S. Stefano.*

The UNIVERSITY occupies, with the Museum of Natural History, a Renaissance palace built by Cardinal Poggi about 1570, from the designs of Pellegrino Tibaldi, surrounding three sides of a square court, of which the architecture, designed by Bartolommeo Triacchini, consists of two stories of coupled Doric and Ionic pilasters on high pedestals, supporting continuous entablatures. On three sides of the court the intervals enclose blind arches, and windows with pedimented caps; on the side toward the entrance are broad open arches, flanked by square openings. The palace was bought by the Senate of Bologna in 1714 for the purposes of the University; several of its halls are decorated with frescoes by Tibaldi and Niccolo Abbate.

BORGO S. DONINO, near Parma, Italy.

The CATHEDRAL is an old church whose present form dates from the end of the XI century. The low broad front, of which only the lower story is finished, contains three deeply recessed and richly sculptured portals, with detached columns standing on griffins or lions. Above is a blank wall flanked by two insignificant corner towers. The interior is of fine bold Lombard design with double bays, grouped piers, and cushion capitals, and early pointed vaults. The triforium has quadruple arcades under enclosing arches, and the clerestory windows are coupled.

BOZRA (anc. Bostra), Hauran, Syria.

The CATHEDRAL resembles in plan that of Ezra, but is on twice the scale, and is ruined. It is a circle of 120 ft. diameter, inscribed in a square of 125 ft., the corners being filled by semicircular niches, and a choir with a round apse projecting from the east side flanked by two sacristies, and these again by two small chapels with apses —an arrangement unparalleled in Syria. The circle shows above the square in a round drum pierced with windows. Probably there was an inner circle of arcaded piers carrying an inner drum surmounted by a dome, but they have disappeared, and a small basilica has been built inside the large church, continuing the lines of its choir. The walls are pierced with a great number of round-arched doors with transoms, and windows. An inscription gives the date 512 A.D.

ROMAN BUILDING, of rectangular plan, on the main street. It has a portico of two ranges of columns, the white marble bases of which remain *in situ*, and three tiers of niches in the wall. The execution and ornament are good. It is uncertain whether it was a temple or a porch.

ROMAN WALLS, surviving on the west and south sides. The city was rectangular in plan, except that the N.W. and N.E. corners were cut off. The west gate is well preserved, displaying two arches, one over the other, and near the gate shell-shaped niches in the wall protected by triangular roof-canopies. The wall is strengthened by many square towers.

The town was traversed by colonnaded streets, like many others in Syria. There are abundant remains of ancient buildings, exploration of which might lead to identification, some good Roman arches, and particularly four excellent Corinthian columns, about 47 ft. high, which belonged to some public building. There are also baths with extensive vaulted constructions.

THEATRE, south of the town and facing north, over which is built a massive Arabian castle with many square towers. Six tiers of the seats of the theatre are visible in the court of the castle. Its diameter is about 250 ft. Flights of steps lead up from outside the auditorium to the precinction or horizontal gallery, and there are arched passages in the substruc-

tions communicating with vomitoria. A gallery with Doric columns, of which some still stand, surrounded the auditorium above. The stage is about 25 ft. deep, and has a wall about 100 ft. long in two stories with decorative niches, and behind it several rooms.

TRIUMPHAL ARCH, of three openings, the middle one about 41 ft. high, besides a transverse arch. It has pilasters, one of which bears a Latin inscription. It stands on a pedestal 41 ft. by 20 ft.

BRANCHIDÆ (Didyma), Asia Minor.

TEMPLE OF APOLLO DIDYMAIOS, a very ancient foundation which was restored after the Persian wars and rebuilt at a late time by the Milesians on so enormous a scale that it was never finished. Two Ionic columns with their architraves, and one apart with shaft not yet fluted, are still standing. The height of the columns is 63 ft., their diameter at the base, 6 ft. 6 in. The temple is described as decastyle, dipteral, with four columns between antæ in the pronaos, and twenty-one columns on the flanks. Its dimensions were 168 ft. by 362 ft. The material is white marble with bluish markings. A Sacred Way led from the sea to the temple, bordered on either side with archaic seated statues, the figure and the chair being carved from a single block.

BRESCIA, Italy.

The BROLETTO is probably the largest of the mediæval town-halls of North Italy. It is an immense pile of buildings with three fronts of irregular mixed design, enclosing a large quadrangle, on two sides of which are vaulted cloisters with simple pointed arches, carried on plain square piers. The external walls show for the most part three stories of windows, square, round-headed, and pointed, but are of various heights, and evidently of various dates. A tall rude bell-tower rises near one of the angles, with four pointed arches in the belfry, and crowned with forked battlements. The chief interest of this great building lies in its beautiful detail, executed for the most part in moulded brick. Some of the windows and cornices are of great elaborateness and elegance. Mothes gives 1187 as the date of the commencement of the building, which was, however, frequently interrupted by domestic disturbances and by foreign wars, so that it cannot be supposed to have been finished before the second half of the XIII century. It has been much altered, and now contains the Courts of Justice. The tower was begun in 1213.

The NEW CATHEDRAL (Duomo Nuovo), S. Pietro, begun in 1609 by Giov. Batt. Lantana, is one of the most successful churches of its time. In plan it is a Greek cross, with the eastern arm lengthened into a deep choir, ending in an apse. The arms of the cross are barrel-vaulted, the re-entrant angles filled out to a square by chapels with low interior domes, and the crossing covered by a noble central dome, 270 ft. high. A single Corinthian order lines the interior, and the great piers under the dome are so grouped, of salient pilasters and detached columns under the main arches, as to give great animation and buoyancy to the design. The façade, added later, is inferior. The dome itself, designed by Mazzoli, was not finished till 1825.

The OLD CATHEDRAL (Duomo Vecchio), also called La Rotonda, a remarkable and very ancient circular church of brick, adjoining the transept of the new cathedral of S. Pietro. Its exterior, extremely simple, presents a low circular aisle, the floor some ten or eleven feet below the level of the street, with a low roof, above which rises the high clerestory wall, or tambour, with five rude, round-headed windows, doubtless modern, near the aisle roof, and above them a series of thin, flat pilasters, dividing the wall into panels and ending in an arcaded cornice. In the panels just under the cornice is a series of round-arched blind windows. The roof-surface

is of low pitch, and is covered with tiles which lie directly on the dome beneath. The interior is not less simple. The central hall or nave has a diameter of about 62 ft., and is surrounded by the aisle, which is 18 ft. wide. They are separated by a circle of eight massive piers about 6 ft. square without base or capital, carrying round arches, above which rises the clerestory wall without string or cornice, supporting the hemispherical dome, of which the crown is about 80 ft. above the floor, with no lantern or other feature. The floor of the surrounding aisle is raised by four steps above that of the central portion. The vaulting of the aisle is peculiar, in compartments alternately rectangular and triangular, separated by two round arches carried across the aisle from each pier, the rectangular compartments being groined. Over the entrance doorway was a square tower, which fell in 1708 and was not rebuilt. The whole construction is very massive, the walls of the aisle and the clerestory being about 6 ft. thick. In the axis of the church beyond the wall of the aisle, opposite the entrance and about 13 ft. below its floor, is the cruciform crypt of San Filastro, with three aisles about 33 ft. long, of four bays each, terminating in apses, and divided by marble columns with carved capitals of various design, some of them strongly Byzantine in character. The columns carry round arches and the bays are covered with simple four-part vaulting. The history of this building is obscure. It has been ascribed to Queen Theodolinda. Some authorities have seen in it the basilica built by Count Raimondo at the end of the VIII cent., the latest, Cattaneo, believes it to be later than the year 1000. The old basilica of St. Peter, occupying a site adjacent to the Rotonda on the east, was burned about 800; and the Rotonda was afterward made to serve for the Cathedral. The basilica was repaired, and the two cathedrals were maintained on an equal footing side by side, one serving for use in winter, the other in summer. Portions of the old basilica still exist, incorporated with the presbytery and choir which were added to the Rotonda in the XIII and XV centuries.

PALAZZO DELLA LOGGIA, or DEL MUNICIPIO (Town Hall). This beautiful example of the best age of the Italian Renaissance, begun in 1508 by Formentone, was carried out by him as far as the floor of the second story; it then passed into the hands of Sansovino, and was completed about 1520 by Palladio. Its façade is extremely simple in disposition, large in scale, elegant and refined in detail. It is in two stories, the first an open vaulted loggia of three arches nearly 20 ft. broad, springing from pilasters in the intervals of an order of engaged Corinthian columns crowned by a very light balustrade. Above is an order of flat Corinthian pilasters panelled and decorated with exquisite bas-reliefs, as is also the broad frieze of the cornicecione, and enclosing single square windows with fluted Corinthian pilasters and entablature. This story is crowned by a high thin balustrade, above which is a modern attic. The interior was originally finished in a style corresponding with the façade, but was quite destroyed by a fire in 1575, with some fine pictures by Titian.

The ROMAN FORUM. Part of its decoration survives in the form of a number of Corinthian columns, and some parts of a Roman theatre are visible in a private house near the Museum.

ROMAN TEMPLE, now serving as a museum of antiquities. It was excavated and consolidated in 1822. It is Corinthian, on a high stereobate, with a picturesque portico of twelve columns and four piers on the front. There are three shallow cellas side by side. The hexastyle middle portion of the portico projects before the central cella, while before each of the side cellas is a porch of two columns between two piers. A central flight of steps descends between square projecting piers

in front. The arrangement of the temple is peculiar in that the portico and pediment are on one of the long sides of the plan. An inscription shows that the building was dedicated by the Emperor Vespasian in 72 A.D., and that one of the cellas was sacred to Hercules. This museum contains the celebrated bronze Victory of Brescia.

La Rotonda. See *Old Cathedral.*

S. Francesco, a late Romanesque church, said to have been founded in 1210, has a front of stone with cornices and mouldings of brick divided into three parts by flat pilasters. In the central division is a good round-arched doorway with deeply splayed jambs and engaged columns, and a very heavy and rich horizontal cornice of brickwork. Above this is a fine rose window with voussoirs of black and white marble. A single low gable with an elaborate brick cornice embraces the whole front. A campanile rises from the south side of the choir and a large and lofty sixteen-sided lantern from the roof of one of the chapels on the north side. The remainder of the exterior and the entire interior have been quite modernized.

Sta. Giulia is a little Lombard church standing in the court-yard of the monastery of the same name, and dating perhaps from the later half of the VIII century. Its plan and disposition are peculiar, a quadrilateral measuring roughly 35 ft. square, over which is set an octagonal dome, its alternate sides carried on squinches covered outside by triangular roofs. From the east side of the church, which was perhaps originally either a baptistery or a mortuary chapel, open three equal semicircular apses. The walls are of cut stone, divided by pilaster-strips which end in arched corbel-tables, and pierced by small arched windows. The dome is masked in the usual Lombard manner by an arcaded eaves-gallery, and crowned by an arched corbel-table, and a low octagonal roof.

Sta. Maria dei Miracoli. A small Renaissance church of the XV cent., remarkable chiefly for its façade, attributed to Giovanni Padoni, of which the central part, including a projecting porch of four Corinthian columns on pedestals with high entablature and panelled wall or attic above, is of extraordinary richness and delicacy of decoration, every surface being covered with marble bas-reliefs. The plan is square, with four central piers dividing the interior into nine bays, of which the central one is covered by a barrel vault, and the four adjacent bays by domes of unequal size. A square choir terminating in an apse projects eastward.

BRINDISI (anc. Brundusium), Italy.

The Castle is a square fortress with round angle-towers, surrounded by a high wall with square angle-towers and a heavy machicolated cornice. Its original date is uncertain, but it was rebuilt in 1223. It was converted by Murat into a prison, for which it still serves, but is now much ruined.

The Cathedral, dedicated to SS. Maria and Teodoro, was consecrated by Pope Urban II. in 1089, and was rebuilt or completed by King Roger between 1130 and 1154, and decorated with mosaics in 1178. It was damaged by an earthquake in 1456 and destroyed by another in 1743, and rebuilt in the style of the period, the work being completed in 1749. The church retains substantially its original disposition, and a portion of the old mosaics has been brought together again on the walls of the nave.

S. Giovanni Battista (St. John the Baptist), an interesting baptistery, assigned by some authorities to the IX cent., and believed by some, but without much probability, to have been built by the Knights Templar. It is a circular building with an interior ring of eight antique columns supporting round arches and a circular wall above. This ring is surrounded by a circular aisle, divided by transverse arches into irregularly vaulted bays, and

broken eastward by a straight exterior wall, tangent to the inner circle, and from whose centre opens out of the inner circle a square, groined choir, with a semicircular apse pierced by three small windows. The roof of the building is much ruined, but traces of ancient fresco decoration are still visible on the walls. The exterior retains its original doorway, a round arch with gable, springing from two marble columns on lions, their capitals sculptured with figures of birds and foliage.

Two lofty unfluted late Roman columns, of Cipollino marble, one with a highly ornate capital bearing figures of gods, still standing, on the point of the inner harbor, seem to have served to bear lights to guide vessels into the port; they may have marked the termination of the Appian Way.

BRUNDUSIUM. See *Brindisi*.

BRUSSA (Broussa, Brusa), Asia Minor.

Jami Mosque (Oulou Djami), the largest mosque in Brussa, and one of the oldest, is a square of about three hundred feet on a side, divided interiorly into twenty-five compartments or bays separated by piers, each bay covered by a low octagonal dome, except the middle one, which is only closed against the entrance of birds by a bronze grille, and serves as an inner court. A fountain occupies its centre. The sanctuary, once richly decorated, is now plain, and disfigured by whitewash. The pillars were inscribed with whole chapters of the Koran interlaced with arabesques, and the *mimbar* or pulpit was the work of a renowned Arabian sculptor. The exterior is very simple, the walls being relieved only by great pointed-arched panels running from bottom to top. Of the three entrances the principal one on the front is a rich specimen of Saracenic stalactite work. On each side of it rises a slender minaret, round and channelled like a column, with a muezzin's gallery at the top and high-pointed roof. Begun by Murad I. (1360–89) it was continued by his son Bayazid and finished by Mohammed I. (1413–21).

The Mosque of Mohammed I., the finest in Brussa, resembles in style the Mohammedan buildings of India. It lacks the usual court-yard, however; a flight of marble steps leads directly to the main entrance. The sanctuary, approached by marble steps, consists of a double nave crowned by two domes, the outer walls being faced with fine marbles. About the doorway is inscribed the first chapter of the Koran, interlaced with foliage designs. The minaret, like the domes, was originally covered with emerald green tiles, whence the mosque was popularly called *yechil* or green; but the tiles have mostly fallen. Within, the walls are faced with enamelled faïence. The *mihrab* or prayer niche is of red marble, and there is a fine *mimbar* or pulpit. The mosque was founded by Mohammed I. whose name is inscribed on it, and who reigned from 1413 to 1421.

St. Elias, a Byzantine church of peculiar form, built, it is thought, about 1250, —a plain brick rotunda 42 ft. across, covered by a dome 55 ft. high. Eight half-round niches indent the wall inside, and similar ones correspond to them outside; between those inside the overhang of the wall is carried on pairs of marble columns, and the thick wall is offset some 5 ft. on the outside above the niches, simulating an aisle. The rotunda is entered through one niche, athwart which is built a great oblong narthex in three bays. The interior is lined with marble, but the fire of 1804 destroyed the dome, which was rebuilt and stuccoed over. After the Turks occupied Brussa in 1326, the church was taken as a mausoleum for Sultan Orkhan.

BYZANTIUM. See *Constantinople*.

CAERE. See *Cerveteri*.

CAESAREA (Kaiserieh), Asia Minor.

Mosque of Huen. A large mosque of

the XIV cent., unique among buildings of its kind in Asia Minor. It has the usual division into fore-court and sanctuary, which are separated by a screen wall. A wall surrounds the whole, buttressed here and there with round turrets. Its peculiarity is that the court, like the sanctuary, is divided into small bays roofed with low domes, only a small open atrium being reserved in front of the doorway of the sanctuary. The area of four bays in front of the *mihrab* or prayer niche is covered by a larger dome. The mosque was built by Huen, the founder of an order of dervishes. His tomb, in a corner of the court on the left of the entrance, is octagonal with a pyramidal roof, and richly ornamented, the eight faces being panelled with pointed arches and the angles reinforced by colonettes supporting a cornice of Arabic honeycomb work. Attached to the mosque are the buildings of a large *medressa* or school.

CAIETA. See *Gaëta*.

CANOSA (anc. Canusium), Italy.

The CATHEDRAL, of early but uncertain date, dedicated to St. Peter, was destroyed and rebuilt about the beginning of the XII cent., and dedicated anew to St. Sabinus. It is a Latin cross about 130 ft. long and 70 ft. wide, with five domes of equal size, about 26 ft. in diameter, covering the crossing and the square bays of nave and transept. The bays are separated by transverse round arches springing from square piers, and the domes are carried on sub-arches, springing from slender columns of granite and verd-antique, with bases and quasi-Corinthian capitals of white marble. The square bay at the crossing forms the choir, extended eastward by a semicircular apse. The north aisle only is divided into bays. The ancient crypt is nearly choked with earth. On the front is an entrance porch in three divisions as broad as the nave, surmounted by a modern tower. The furniture of the church is of remarkable elegance. The high altar rests on four columns of green and white marble; the pulpit, of marble, about 5½ ft. square, is one of the most beautiful in southern Italy. It is supported on high octagonal columns with Byzantine capitals, carrying round arches and richly ornamented with mosaic and carving in relief. The bishop's throne is of marble, supported on two figures of elephants, and with much interesting Byzantine carving in relief. Both the pulpit and the throne probably belong to the earlier church. On the south wall of the transept is an entrance porch of two round arches springing from stout columns with composite capitals with a strong horizontal cornice above. Outside is the small square chapel of Bohemond, the Norman hero, son of Robert Guiscard—its front a blind arcade of four round arches, with a fine bronze door of panels enclosed in borders of graceful arabesque designs in niello. The chapel is covered by a pointed dome on an octagonal drum, with slender angle-shafts supporting a decorated cornice.

There are ancient remains of considerable extent and interest, including portions of the city walls, an amphitheatre, the triumphal arch of Terentius Varro, ascribed to the time of Trajan, an aqueduct, and an important necropolis of rock-tombs, which has yielded quantities of gold jewelry, small bronzes, and painted vases of unusually large size.

CAPRAROLA, Italy.

The CASTLE, built in the XVI cent. from the designs of Vignola for the cardinal Alexander Farnese, is perhaps his most celebrated work. Its plan is a regular pentagon measuring about 130 ft. on each side, and enclosing a circular court 65 ft. in diameter, with an arcade of round arches on coupled columns. The castle sits on a high terrace, whose outline is parallel with its walls, and to which the approach is by two stately double staircases on the entrance front, with an ad-

vanced arcaded porch or loggia. Above this is the terrace wall, of plain stone masonry, with square pedimented windows, the angles marked by projecting bastions.

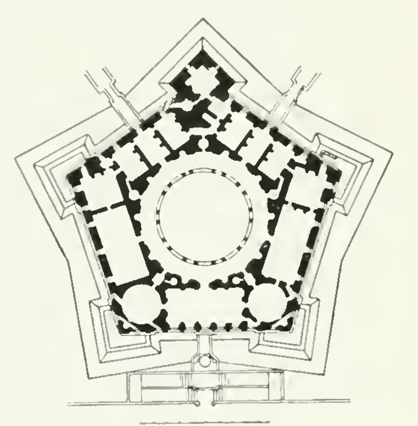


Fig 44 Caprarola, Castle, Scale of 100 feet.

Above the terrace rises the mass of the castle itself, in two stages, each about 30 ft. high, with an order of pilasters, Ionic in the lower stage, Corinthian in the upper, the former enclosing round arches and high pedimented windows, and the upper, two stories of square windows. (*See Fig. 44.*)

CAPRI, Italy.

The Old Cathedral, dedicated to Sta. Costanza, is believed to have been founded as early as the VII cent., but has been much changed and enlarged in later days. It is now a rectangle about 36 ft. wide and 76 ft. long, equally divided between the old and new portions. The former is divided by two ranges of four round arches each into three aisles of equal width, and these are again divided by transverse arches into twelve square bays. The three westernmost bays were originally a narthex; the remaining nine formed a square, enclosing a Greek cross, the central bay being covered by a high hemispherical dome, the four arms of the cross by barrel-vaults, and the four bays in the angles by groined vaults at a lower level. The bay forming the south transept has a semicircular apse; the central bay on the east had another, which was demolished, probably in the XV cent., to make way for the modern square choir, which is as wide and as long as all the rest of the church. The church was made the cathedral in 990, and this is perhaps the date of the central dome. The narthex was probably taken into the church when the choir was added in the XV century.

CAPUA, Italy.

Amphitheatre, at Sta. Maria di Capua, two miles east of modern Capua. It was probably built by the colony of Augustus, though it perhaps succeeded an earlier structure, as Capua had at an early period a noted school for gladiators, and was restored under Hadrian, 117–138 A.D., Septimius Severus and Pertinax, 192 A.D., and Valentinian III., 445 A.D. Under the Saracens, in the IX cent., it was converted into a fortress, and was almost totally ruined in the defence against Athanasius, Bishop of Naples. Remains of several corridors and arches show it to have been a magnificent structure. It is much like the Colosseum, and was nearly as large. The plan is elliptical, the greater axis 557 ft., the lesser 458 ft., while the arena measures 250 ft. by 150 ft. Its capacity is variously computed at from 42,000 to 62,000 spectators. The superstructure consists of three superimposed arcades of eighty arches each, ornamented throughout with columns of the Doric order. Heads of deities are sculptured on the keystones of the arches. The total height is 95 ft. The material of the arcades is squared blocks of travertine laid without cement; of other parts, reticulated brickwork. The arena was floored with brick carried on vaults, presenting numerous square openings for trap-doors. The substructions remain more perfect than in the Colosseum. Canals for flooding the arena as a naumachy and drains for carrying the water into the river survive in good preservation.

ARCO CAMPANO or Arco Felice. A Roman triumphal arch, on the Via Appia, near the amphitheatre. Of its three arches only the southern one is standing, together with the pier of the middle one. The material is travertine, originally cased with marble.

The CATHEDRAL, whose date has been assigned to the IX and XI cents., is a three-aisled basilica. The atrium of the original church remains, surrounded by a colonnade of twenty-four Corinthian columns, of which sixteen are antique, carrying rather stilted round arches. The church, which has been once or twice rebuilt and recently restored, retains the Gothic arcades of the XIV cent. or perhaps earlier, carried on twenty-four columns with Corinthian capitals, more or less recut. The large crypt is Norman in character, with a circuit of marble columns, also of Corinthian form.

S. ANGELO IN FORMIS. The original church, dating from the IX cent., was replaced or restored two centuries later in connection with the adjacent monastery of the same name, and consecrated in 1075. It is a small rectangular basilica, about 110 ft. long and 60 ft. wide. An open portico of five groined bays gives access by a central doorway to the nave, which has seven round arches on each side, springing from antique columns of marble and granite. The nave and aisles, ceiled with wood, terminate each in a round apse. The church is remarkable for its mural paintings, which were executed by Greek artists and covered the whole surface of the walls. The clerestory is painted with three ranges of pictures—the west wall of the nave bears a great picture of the Last Judgment covering all the space above the door, the central apse a picture of Christ enthroned among angels and saints. The front has a great porch later than the rest, extending across its whole breadth, with five high, stilted, pointed arches, on shortened antique columns of various sizes. The middle arch, broader than the rest and more stilted, cuts up through the horizontal cornice. On the wall under the porch and in the tympanum of the doorway are frescoes. Above the porch roof three small plain round-arched windows continue the clerestory under a low gable. A Roman temple of Diana once occupied the site, and is supposed to have furnished the columns in the church. Its peribolos wall may still be traced. On the south side of the church stands a low, detached campanile, of two stories, separated by a carved string-course, and a flat roof.

CASALE MONFERRATO, Italy.

CATHEDRAL OF S. EVASIO. A striking old Lombard church built by Luitprand in 741, but much changed in the XII cent., and consecrated by Paschal II. as the cathedral in 1107. It is a five-aisled basilica, its plan a rectangle of about 105 ft. by 170 ft., of which a quarter is occupied by a narthex or vestibule of singular construction. The church is divided by cruciform piers and round arches into nave and aisles of six bays, groin-vaulted and of nearly equal height, the fourth bay opening into a transept, and the crossing being covered with an octagonal dome. There is a rather deep choir, ending in a round apse and flanked by two others. The narthex is one of the curiosities of architecture. It is three bays deep, and the aisles of the main church were carried across it, but in the beginning or later the four middle piers were suppressed, while the vaulting compartments were retained, and the six central vaulting-bays are hung on two great transverse arches and two ramping half-arches that bear like flying buttresses against the inside of the façade. The span of the great arches is nearly 60 ft., and their height about the same. Apparently the half-column buttresses that flank the door were at first expected to stay the façade against the half-arches, but were insufficient, and great wall-but-

tresses were added. The façade is mostly overbuilt. The exposed centre consists of a low arched doorway with stout columns and cubic capitals, and above, a blind arcade of interlacing arches whose columns have foliage-capitals. Over this an arched panel encloses two triple windows under round arches, one over the other. Each side the doorway a tall columnar buttress divides the whole front, and, as has been said, is built over with a heavy wall-buttress. The front is under a single low gable, with an arched corbel-table. The details are of interesting early Lombard character.

CASAMARI, Italy.

A BENEDICTINE MONASTERY was founded in 1088, which passed in later days into the hands of the Cistercians, when its architecture was greatly modified. It now presents one of the most interesting examples in Italy of the pointed style, clearly indicating French prototypes. The church appears to have been built in the XII cent., but was only consecrated in 1217. It is cruciform in plan, with a length of about 150 ft., a breadth across the transept of about 110 ft., and an octagonal dome at the crossing. Nave and aisles are separated by compound piers, carrying six pointed arches on each side, and are covered with groined vaulting. The façade has three pointed arched doorways, and above, a wheel window between two lancets. A fine cloister opens from the right transept, with slightly pointed arches in groups of three or four, on small columns with foliated capitals of various design. A remarkable chapter-house is entered from the cloister, divided into three aisles by clustered columns, alternating with single columns and supporting pointed arches which divide the ceiling into groined bays. The room is lighted by four two-light pointed, arched windows divided by mullions. (*See Fig. 45.*)



Fig. 45.—Casamari. Convent Church.

CASANOVA, Italy.

The CISTERCIAN MONASTERY of Casanova, not far from Penne in the Abruzzi, was founded in 1191, and in 1195 was taken possession of by monks from SS. Vincenzo ed Anastasio near Rome. It was abandoned in the XVI cent. and is now partly in ruins. It was originally of great size, magnificence, and wealth, the mother of three important monasteries (Ripalta, S. Pastore near Rieti, and S. Spirito d'Ocre), and with many others dependent upon it. The style of the buildings is pure Romanesque, without a trace of the Gothic, which, in more or less transitional form, was employed in con-

temporary Cistercian monasteries. There appear to be two periods of construction, the earlier one of stone and the later of brick. The church consisted of three aisles, a transept with two square chapels, and a square apse, all covered with fine lofty tunnel-vaults. On one side of the apse is a fine Gothic hall with a high ribbed cross-vault, somewhat later in date than the church. The refectory was supported by a forest of columns sustaining cross-vaults, divided into three aisles, and is the largest belonging to the order in Italy with the exception of that at Casamari. The chapter-house belongs to the period of the brick constructions, and consists of six cross-vaults supported by two shafts with plain semi-cubic capitals. It is well known that the tunnel-vault was very seldom used in Italian Romanesque architecture; here at Casanova it is employed on a scale hardly equalled in other instances. Other examples of the use of the tunnel-vault, in buildings belonging to the Cistercian order, such as S. Pastore at Rieti, S. Spirito d'Ocre, and SS. Vincenzo ed Anastasio near Rome, show that it is due to the influence of the latter monastery. Two contemporary churches not belonging to the order show the spread of the tunnel-vault to Umbria: they are the churches of S. Silvestro and S. Michele at Bevagna near Foligno. [A. L. F., Jr.]

CASAURIA, near Pescara, Italy.

S. Clemente, the abbey church, was founded in 854 by Ludwig II., was destroyed in the xi cent. by the Saracens, and rebuilt in the xii substantially as it now appears. It is a three-aisled basilica, with transept and single apse raised above the nave floor. The nave, about 125 ft. long by 50 ft. wide, is in seven bays of pointed arches carried on square piers, and is covered by a wooden tunnel-vault, tied across. The apse is entirely Lombard in character. Beneath is a crypt sup-



Fig. 46.—Caserta Nuova, Royal Palace, Stairway

ported by twelve antique columns, which doubtless belongs to the original church. The handsome square pulpit dates, according to its inscription, from the ix cent., and the altar is an old Christian sarcophagus. The interesting part of the exterior is the front, which has an open porch of three arches, one round between two pointed, of somewhat Norman character, and above, a range of coupled windows with dividing shafts, and ends horizontally without a cornice, as if unfinished.

CASERTA NUOVA, Italy.

The Royal Palace, built in 1752 from the designs of Ludwig von Wittel, better known under his Italianized name of Vanvitelli, perhaps his most celebrated work, is one of the largest of European palaces, covering a rectangle measuring 780 ft. by 546 ft. Its plan is extremely simple; the outer circuit of buildings encloses a space which is divided by two cross wings into four equal courts, each about 230 ft. long and 160 ft. wide. At the centre is a great octagon from which opens the grand staircase, and which is covered by a dome.

The plan includes a chapel, very rich in precious marbles, and a theatre adorned with sixteen Corinthian columns of African marble taken from the temple of Serapis at Pozzuoli. The decorations throughout the palace are rich and elegant, the construction very solid, and the ceilings everywhere vaulted. The exterior design is somewhat ineffective—two ranges of pedimented windows above a high basement and beneath a long horizontal cornice, with pavilions at the angles and centres, including the two upper stories under an engaged Corinthian order, and pediments over the central pavilions. (*See Fig. 46.*)

CASERTA VECCHIA, Italy.

The CATHEDRAL (St. Michael), rebuilt in 1153, is one of the most important and interesting monuments of the Norman occupation of South Italy. It is a small basilica measuring 153 ft. in length and 63 ft. in width, or 90 ft. across transept. The flat-ceiled nave and aisles are separated by ten tall round arches on each side, carried on Corinthian columns, above which is a high wall with small round-headed clerestory windows. The transept has a single square groined bay on each side of the crossing which forms the choir, and is covered by an octagonal dome on four high slightly pointed arches, with pendentives springing from angle-shafts. The drum of the dome has a blind arcade of round arches on slender engaged shafts. From the crossing opens a modern rectangular chancel. The choir is furnished with stalls of the XV century. The exterior is very interesting. The unbroken wall of the front follows in outline the interior section. There are three plain square-headed doorways under round bearing-arches guarded by monsters. Over the central door is a single round-headed window with corbelled shafts. Above a horizontal arched corbel-table is a low gable with interlacing arcades. At the south angle of the front is a fine tower, finished in 1234, decorated with interlacing arcades, two light windows, and angle-turrets. The flanks of the church are very simple; small round-headed windows light the aisle and clerestory; the transept has small horse-shoe windows, and low gables faced with blind arcades. The remarkable central lantern is decorated with mosaics in the Sicilian manner in two stories of blind interlacing arcades. A band of square panels between the stories, a belt at the level of the upper capitals, and a frieze under the cornice are similarly decorated, as is also the whole surface of the upper wall. The lantern probably dates from the later half of the XIII century.

CASTEL D'ASSO (Castellaccio, anc. Axia), Italy.

The ETRUSCAN NECROPOLIS is formed of rock-cut chambers with architectural façades from 12 ft. to 30 ft. high. The range of tombs extends for a considerable distance, like a street, along the side of a lateral ravine. The doors narrow toward the top, like those of the Egyptians; the details of the burial-chambers, and the abundant inscriptions, are all interesting.

CASTEL-DEL-MONTE, Italy.

An ancient and ruined castle on the summit of a hill about twelve miles from Trani, built during the earlier half of the XIII cent. by the Emperor Frederick II. as a hunting seat. In plan it is an octagon, 130 ft. in diameter, with an octagonal tower at each angle and divided by radiating partitions in each story into eight vaulted chambers about an octagonal court. The pointed arched ribs spring from angle-shafts of red and white marble, single and grouped. Small spiral stairs in four of the angle-turrets connect the two stories. The exterior is very simple. It has a single pointed arched door under a simulated porch, and in the upper story two-light traceried windows, under pointed bearing-arches.

CATANIA (anc. Catana), Sicily.

AMPHITHEATRE, probably of the time

of Augustus. It remained intact until 498 A.D., when Theodoric gave permission to the citizens to repair the city walls with its stones. Only a few arches and vaulted corridors are now visible. The plan is elliptical, the greater axis about 410 ft., the lesser 345; axes of the arena, 230 and 164 ft. The material is concrete cased with massive masonry, with brick vaulting under the seats, which are of limestone. Traces of aqueducts show that it was used for the naumachy.

The BENEDICTINE MONASTERY of St. Nicholas, though never completed, was one of the largest and most magnificent in Europe. It is an immense enclosure, including two courts about 120 ft. square out of four that were intended, surrounded by buildings, and behind them superb gardens. The courts are lined with arcaded cloisters in two stories. In the front court the arcades are composed of the so-called Palladian motive, the arches enclosed in an order of Tuscan columns, with a sub-order supporting the imposts; producing an effect of great magnificence; in the other, the arches spring directly from the columns, with the light effect of the early Renaissance. The church, dedicated to St. Nicholas, and imbedded in the buildings with its front to the street, is very large, measuring some 360 ft. long and more than 200 ft. across the transept, and still unfinished on the outside. The broad nave consists of two square domed bays and a third shorter and barrel-vaulted. The crossing is also covered by a dome, the aisles carried round both sides of the transept as well as the nave and choir: the transept arms and the deep choir which is flanked by two square chapels all end in round apses. The monastery was founded in 1558 and was twenty years in building, was injured by an eruption of Mount Ætna, and restored in 1687. Six years later it was partially destroyed by an earthquake and abandoned. In 1730 it was again restored, and was occupied as a monastery till it was secularized under Victor Emmanuel.

The CATHEDRAL (Sta. Agata) contains the shell of the earliest church, built under Roger I., on the ruins of the Roman thermæ, and consecrated in 1094. It was injured and again practically destroyed by an earthquake in 1169, which buried the abbot and a crowd of people, and again in 1693, after which it was entirely rebuilt, the front being added by Vaccherini toward the middle of the XVIII century. It is a three-aisled church with transept, a dome over the crossing, and three eastern apses, about 300 ft. long and 100 ft. across the transept. The interior is entirely modern, but the walls of the apses and transept still show on the outside an arcade of pointed arches which probably dates from the rebuilding at the end of the XII century. The earlier Lombard west doorway was afterward transferred to the church of S. Carcere. Vaccherini's low broad baroco façade, following the outline of the nave and aisles, is decorated with two orders of grouped columns, among which are six that are believed to have come from the ancient baths, whose remains are still to be seen beneath the church. Behind the façade rise a well-proportioned dome and cupola on a drum decorated with an order of engaged Corinthian columns. The handsome choir-stalls, of 1592, represent in carved panels the story of St. Agatha, whose relics occupy her chapel in the right apse.

STA. MARIA DELLA ROTONDA. This structure is a well-preserved ancient Roman circular building with a dome resting on eight arches. The walls are of lava and brick coated with a very fine stucco. Near the high altar a large arch opens into what was apparently the vestibule connecting with the baths of which it probably was part.

THEATRE, in the midst of the modern city, on the Strada del Corso. The foundations are Greek; the superstructure,

now in great part underground, is Roman. The cavea is a semicircle, facing south; there are two precinctions or horizontal passages, and there was a portico around the upper boundary. The massive exterior masonry is of lava; the concrete of the vaults is strengthened with brickwork.

THERMÆ (Baths). Ten rooms remain, some of them in excellent preservation. The chief of these, octagonal in plan, with niches in the concrete walls, a lava vault, and brick arches, is identified as the apodyterium or dressing-room. The frigidarium, tepidarium, and caldarium are all more or less well preserved; in the walls of the last is visible part of the system of hollow tiles by which heated air was conveyed. Outside of the caldarium the furnace is seen.

CATTARO, Dalmatia.

The CATHEDRAL (S. Trifone) is a XII cent. basilica, altered after an earthquake in the XVII. It has a lofty nave of four bays, aisles, and three apses against the east wall. It is round-arched with grouped nave piers alternating with single columns, there being two square bays of the aisles to one of the nave, except the westernmost bay, which is of half the length of the others. The bay next the choir has the original vault, the rest of the vaulting being later. The first church was built in 809 A.D., to receive the bones of S. Trifone. It was destroyed and rebuilt—consecrated in 1166. In 1667 an earthquake destroyed the façade and towers, which were rebuilt. It contains a handsome baldacchino over the high altar, after the Dalmatian form, in three octagonal arcaded stories carried on a four-square architrave by four columns.

CECCANO, Italy.

STA. MARIA DEL FIUME, near the city, originally belonged to the Cistercians. It is cruciform, with a square apse and no side-chapels. The present length is 105 ft. without counting the present apse, which is modern; the width is 52 ft. across the nave and aisles and 70 ft. across the transept. The nave and aisles have groined cross-vaults over their four bays supported by unmoulded piers; while the transept has ribbed pointed cross-vaults like those at Fossanova and Casamari. The main arches of the nave and all the transverse arches but two are pointed. The façade has a rose window similar to that at Valvisciolo (*q.v.*) but smaller, and the door-way underneath is round-headed. The tower over the farther bay of the left-hand aisle is early and is supported on a tunnel-vault. The main body of the church appears to have been built in the XII cent., the transept in the XIII, and the transition from one to the other is evident; a developed Gothic style is shown in the tracery of the windows in the transept and in the banded engaged columns of its piers similar to some at Casamari. The consecration of this church in 1196 is described at length in the chronicle of Fossanova. [A. L. F., JR.]

CEFALU, Sicily.

The CATHEDRAL, built between 1131 and 1148, by Roger II., and more or less altered in the XIII and XIV cents., is a three-aisled basilica, with projecting transept and a deep choir and two lateral chapels, all ending in round apses. It was at first a smaller church, which, according to tradition was an offering of the king to St. George for his preservation from a dangerous storm at sea, but was injured by fire and converted into the present great church immediately after its first completion. The front is recessed and flanked by two high and massive square towers with pointed windows, surmounted by small square pavilions, rising behind parapets and crowned by low spires. The recess is filled by a light open vaulted porch of three arches—one round between two pointed. This is a later addition and covers the original round-arched Normanized door-way. Over the porch are two blind arcades of pointed

arches, interlacing below and single above. The nave, lower than the transept and choir, was apparently not carried to its intended height, leaving the façade and flanks unfinished. The east end shows the lofty choir and low side-apses enriched with coupled shafts and blind arcades, partly simple and partly interlaced. The arches throughout are pointed, except the west door. The church is about 265 ft. long by 135 ft. across the transept. The nave, 40 ft. wide and 65 ft. high, is in seven bays of stilted pointed arches with columns whose capitals are some antique and some Lombard. The clerestory has single windows and a wooden open-timbered roof. The transept and crossing, raised several steps above the nave, are some 90 ft. high. The crossing seems to have been intended for a central tower or dome, which is lacking; the choir is groined, with corbelled vaulting-shafts, and adorned with mosaics, among the finest in Sicily. Against the entrance pier of the choir, which is raised a little above the crossing, are set, facing each other, the throne of the bishop and one for the king—an arrangement peculiar to Sicily, where the kings claimed a sacerdotal rank. Three sides of the cloister of the adjoining convent remain, with pointed arcades on coupled columns whose shafts are twisted and enriched, and the capitals variously carved, resembling those at Monreale.

CERVETRI (anc. Agylla, Cære), Italy.

Tomb of the Reliefs, discovered 1850 by the Marquis Campana. It is reached by a long flight of rock-cut steps, at whose entrance are sculptured two large lions. The chamber, measuring 25 ft. by 21 ft., is surrounded by broad, rock-cut benches. Two square piers support the panelled roof, and in the walls are cut thirteen rectangular niches for bodies. This tomb is remarkable for the abundant painted reliefs on its walls and piers. The burial niches are separated by fluted pilasters, whose capitals, like those of the roof-piers, approach the proto-Ionic or Æolic type. On every pilaster is carved a round shield. Above the niches runs a frieze of varied Etruscan weapons, all in relief and colored. Over the doorway are placed sacrificial emblems. The faces of the roof-piers are carved with a variety of domestic and sacerdotal implements.

Tomb of the Tarquins, identified beyond reasonable doubt as a burial-place of the great kingly family of Rome. It consists of a rock-hewn vestibule from which a flight of steps leads down to a second chamber, 35 ft. square, with a panelled roof in two slopes supported by two square piers in the middle. A plain, rock-hewn bench runs along both sides, and thirteen rectangular niches for bodies are cut in the walls, in a single tier. The entire interior is coated with stucco, on which numerous inscriptions are impressed, or painted in red or black, together with some ornament, as wreaths, pilasters, castanets, claw-footed legs of couches, so disposed as to give the niches the appearance of beds, and a circular shield on one of the piers. Among the inscriptions the name of Tarquin occurs thirty-five times.

CHALCIS. See *Anjar*.

CHIARAVALLE, near Ancona, Italy.

The old Benedictine Monastery has a church of the Cistercian type, transitional in style, with an inscription bearing the date of its building in 1173. It is cruciform, with a nave and aisles of six bays, pointed arcades, and vaults, projecting transept of two bays, and a square projecting choir, flanked on the left, and formerly on the right, by three square chapels. The exterior is Romanesque in type.

CHIARAVALLE, near Milan, Italy.

The Abbey Church resulted from the enthusiasm aroused by a visit of Bernard of Clairvaux to Milan, in 1134. The first Cistercian monastery in Italy was founded during the next year, and the church was consecrated in 1221. It is a

large church with a long nave of nine bays, long transept, a square-ended choir, a simple square campanile at the front, and over the crossing a remarkable lantern or tower, which is the only important external feature. It is octagonal, the lower portion as broad as the nave of the church, with a two-light window under a round bearing-arch in each face, and two ranges of open arcaded galleries above. At this point a somewhat later construction begins —a series of diminishing arcaded galleries, out of which rises a slender tower in two stories, the upper one an arcaded belfry stage finishing with an open balustrade and a round brick spire. The whole is graceful and effective. The construction of the lantern is interesting. The lower division has a double wall, of which the inner portion carries the wall of the second division. From the top of this latter wall starts the real spire, of which the greater part is concealed by the upper stages of the octagon which are built round it. The interior is spacious and not without grandeur, though now dismantled and covered with whitewash. The nave has four bays in front of the crossing, massive piers with simple impost moulding, and round arches. On each alternate pier is carried up a pilaster from which a transverse arch is carried over the nave. Between the arches the nave is vaulted in a single square four-part vault. There is no triforium, but a simple clerestory with round arched windows. The central lantern shows, within, two stories above the nave vaulting, and an octagonal dome, covered with modern paintings. The transept arms are large, as high as the nave, and have each three easterly chapels. The square choir has a beautiful double row of stalls, dating from the XVII cent., and enriched with fine carvings. The



Fig. 47.—Chiaravalle, Abbey Church.

choir has the remains of frescoes by Bernardino Luini. (*See Fig. 47.*)

CHIETI, Italy.

The CATHEDRAL is an XI cent. church consecrated in 1068, but repeatedly rebuilt in the XVI, XVII, and XVIII cents., and last in 1848. Little of the original church remains beyond the general disposition. The nave and aisles are each in four groined bays; the rectangular transept with three eastern apses is raised by thirteen steps above the nave, and under it is a fine crypt with seven aisles, each three bays in length, and three apses. The tower on the front dates from 1335, but its upper story from 1498.

CIBYRA, Phrygia, Asia Minor.

ODEUM, or small theatre, about one hundred yards south of the large theatre. The exterior diameter is 175 ft.; thirteen tiers of seats are visible, and probably more are hidden in the lower part. Its front is a high wall pierced with five arched doorways flanked by two square ones, and remains nearly entire.

THEATRE in the upper part of the city. The exterior diameter is 266 ft.; there are thirty-six tiers of seats visible, twenty-one above the *diazoma* or horizontal passage, and fifteen below, and probably more exist under the soil. Only the foundations and a doorway of the stage-structure are left.

CITTÀ DI CASTELLO, Italy.

The CATHEDRAL, dedicated to S. Florido, is an early Renaissance building, replacing the original church of 1012, destroyed by the earthquake of 1458, and of which only the round bell-tower remains. The present church, begun in 1482, but not finished until about 1530, and consecrated in 1540, is cruciform in plan with a length of about 210 ft. and a breadth of 75 ft. It has a broad nave without aisles, covered by a coffered wooden ceiling, and flanked by six rectangular chapel-like barrel-vaulted recesses on each side, of which one is an entrance vestibule and the opposite one the vestibule of a large square chapel of later date than the church, dedicated to the Holy Sacrament, and covered by a round dome. An order of Corinthian pilasters encircles the church, under which round arches enter the nave chapels. Above the roof of the chapels is a clerestory set with an order of pilasters and pierced by windows with pediment caps. The nave opens by a triumphal arch into a transept as high as itself, and the crossing is covered by a hemispherical dome raised on a drum and masked without by a great octagonal lantern. The square choir is a prolongation of the nave and covered by a flat domical ceiling. The design of the church has been attributed to Bramante, but there seems little doubt that the architect was Elia di Bartolommeo Lombardo.

CITTADUCALE (anc. Aquæ Cutiliæ), Italy.

The site of the ancient city is long and somewhat narrow; it abounds with Roman ruins, still mostly unexcavated, among which aqueducts and thermæ are the most noticeable. One of the baths has been in part explored; part of its exterior walls, in reticulated masonry with cordons of tiles, still rises to a height of several yards. Along the south and east walls there is a series of chambers. Among them is a nymphæum in which are four fountains coated with hard stucco; their semicylindrical vaults are adorned with shells of various kinds, and they have at the angles graceful little pilasters inlaid with small bits of marble of different colors, and blue glass. The walls of the caldarium or hot bath were plastered in white, with the lower part and panelling in red; three tiers of seats skirted the walls, which were adorned with niches and pilasters. The entire floor of this hall, including the tank, was raised on short piers for the needs of heating. There are abundant remains of the hypocaustum, with its heating-furnaces and pipes.

CIVATE, Italy.

The little CHURCH OF S. PIETRO was attached to a Benedictine monastery founded in the IX cent. in the remote and mountainous region now known as the Brianza. It stands high on the mountain side above the town, surrounded by the ruins of its monastery; and is approached by a long staircase at the principal entrance at the east end. Its plan is a simple rectangle, about 25 by 75 ft. inside, with a semicircle at each end. The exterior is of the simplest design, the walls are of stone and divided into rather narrow panels by slender pilasters ending in an arched corbel-table. A small square campanile of comparatively recent date is attached to the south wall. The western semicircle is the apse of the choir, which occupies a third of the rectangle, and whose floor is raised five steps above that of the nave. The eastern semicircle is divided into three vaulted compartments, of which those at the sides end in semicircular recesses, the central one being occupied by the doorway. These compartments are separated from the nave and from each other by round arches resting on columns, as is done in the little chapel at Cividale di Friuli (*q.v.*), which is like this church in many of its features. A high crypt extends under the east end of the church, with three aisles, divided by columns into square vaulted bays and lighted by narrow windows in the east and south walls, which, owing to the slope of the hillside, are entirely above ground. The round-arched ciborium as well as the architectural features are executed in stucco, of much delicacy and vigor, as at Cividale. The nave has a wooden roof and the western apse a semi-dome. The interior walls and vaults were covered with ancient paintings in good preservation a few years ago, but recently covered with whitewash.

CIVIDALE DI FRIULI, Italy.

STA. MARIA IN VALLE. This little church, of small importance from its size, is of great interest from its antiquity and from certain characteristic features in its construction and decoration. Its plan is a simple rectangle about 20 ft. by 32 ft. Of this length, two thirds are given to the nave, covered by a single groined four-part vault. From the eastern side of the nave three stilted round arches, carried on Corinthian columns, open into the sanctuary four steps higher, which is roofed with three narrow barrel-vaults and shut off from the nave by a low marble screen, with an opening in the centre. At the spring of the vault a delicate moulded cornice was carried around the west, north, and south walls of the nave. In the middle of the front, a square doorway is covered by a round arch with an elaborate and beautifully decorated archivolt, springing from columns on each side, of which only the mutilated capitals remain. Traces of an ancient fresco remain in the tympanum. Above, within the arch of the vault, is a



Fig. 48.—Cividale di Friuli, S. M. in Valle.

broad frieze of sculpture, with a round-arched window in the middle, and three life-sized figures of saints. This sculpt-

ured decoration of frieze, cornice, and archivolt is executed with great delicacy in stucco, portions of it on a ground of pale blue glass, and accentuated at certain points by bulbs of the same material. The inner walls are of brick, covered with plaster, and, as well as the vaults of the sanctuary, were decorated with frescoes, of which portions are still visible, though much dilapidated. The pavement is of marble. The history of the monument is somewhat obscure. Dartein believes the nave to have been a Roman temple, and all the authorities agree that when, some time in the VIII cent., a monastery was founded by a duchess of Friuli variously named Gertrude or Piltrude, this building was taken as its chapel. Its insignificance has saved it. In its present use, what we have called the nave serves as a choir, and the walls are surrounded on three sides by a line of wooden stalls with much fine carving, covered by a continuous canopy, and thought by Dartein to be as old as the XIV century. *(See Fig. 48.)*

CIVITA-CASTELLANA, Italy.

The CATHEDRAL OF STA. MARIA is a basilican church dating originally from about 1172, but substantially rebuilt in the XVI century. The ancient crypt remains, as also a remarkable west porch



Fig. 49.—Civita-Castellana, Cathedral Porch.

dating from 1210, composed of a central round arch capped by a semi-classic entablature with slender angle pilasters, and flanked by galleries supported by small Ionic columns and covered by an entablature at the level of the springing of the central arch. The friezes are decorated with mosaic. The great entrance doorway under the porch is a fine feature—a round arch in three orders springing from a square pilaster and two shafts on each side. The shafts rest on lions. The square door-way is enclosed in a band of mosaic, and the arch-head contains a half rose. This porch and door-way are among the best and earliest examples of the work of the Roman Cosmati, so-called; and the porch bears the inscription: MAGISTER. JACOBUS. CIVIS. ROMANUS. CUM. COSMA. FILIO. SUO. FIERI. FECIT. HOC. OPUS. A. DM. MCCX. *(See Fig. 49.)*

CNIDUS (Knidos), Asia Minor.

The ancient FORTIFICATION WALLS remain very perfect; they consist of two

main stretches, one running east and west, the other north and south, and meeting on a hill N. E. of the city; the former stretch is partly in Cyclopean masonry, somewhat rude, the latter stretch is of good Hellenic masonry, and is strengthened by several towers. There is a particularly fine circular tower at the end of the peninsula, near the more northern of the two harbors.

THEATRE, of large size, with thirty-six tiers of seats, subdivided by two precinctions or horizontal passages of communication. The cavea is surrounded above by a plain concentric wall, and remains in excellent preservation. Its diameter is 400 ft. The stage structure is a mass of ruins. There are also on the site a smaller theatre and an odeum.

COLONIA JULIA. See *Spello*.

COMO, Italy.

The BROLETTO, or town-hall, situated in the great square adjacent to the Cathedral, is a small building, with two fronts on opposite sides, the first story entirely open, forming the public exchange of the town. Two ranges of four obtusely pointed arches springing from low octagonal piers of marble with large foliage capitals carry the front and rear walls: a third range divides the interior and gives a middle bearing to the floor above. The front toward the great square is banded in black and white marble. The second story, divided from the first by an arched corbel-table, has two triple windows with mullion-shafts under pointed arches. A third central arch gives access to the balcony called the ringhiera, peculiar to this class of buildings in North Italy, from which the magistrates were accustomed to address the people. A small arcaded cornice formerly finished the composition, but a low third story has been added at some recent date. A massive square bell-tower stands at the angle of the building, which was completed in 1215. (*See Fig. 50.*)



Fig. 50. Como, Broletto.

The CATHEDRAL is a large and richly decorated church of mixed character, begun in 1396 in the Romanesque style, which was soon changed to Gothic, and largely rebuilt in 1513–21 by Tommaso Rodari or Rotario, in the style of the Renaissance. It is built entirely of white marble. The three divisions of the west front are marked by flat pilasters terminating in square pinnacles above the roof, and bearing on their faces rows of small niches, one above another, containing statues. In each division is a deep round-arched door-way, with a tympanum charged with sculpture. Above, the windows are pointed, with traceried heads. Over the central door-way is a row of canopied niches with statues, and a fine rose above, flanked by richly decorated niches with statues. The central division, crowned by a large and high pinnacle of singular design, is entirely above the nave. The sides of the church are in the Cinque-Cento style, with door-ways and windows decorated with arabesques and portraits in bas-relief, the wall broken by buttresses terminating in pinnacles. The central cupola is also

Renaissance in style, having been built in 1732, with an octagonal tambour with columns at the angles, a round-arched window in each face, and an entablature and attic from which springs an octagonal dome crowned by a lantern. The interior shows a nave and two aisles, Gothic in character, with a vaulted ceiling restored in 1838, Renaissance transept and choir, the latter with a circular end, broken by Corinthian pilasters with two stories of windows between. The circular baptistery has been attributed to Bramante.

S. Abbondio, an interesting example of an early Lombard church of the basilican type. It is a five-aisled church about 80 ft. by 105 ft. inside, with an elongated choir and apse which add some 50 ft. to this length. Externally, the church is of brick of extremely simple design. The front follows the outline of nave and aisles, and the wall is broken by a square buttress opposite each of the four rows of columns. A single large plain doorway with square opening and round arch occupies the central compartment. Over it is a plain round-headed window, with two simple round-headed windows above. On the faces of the buttresses four engaged columns remain of a large porch which projected boldly from the front, a rare feature in Italian churches. All the eaves are ornamented with arched corbel-tables. The long choir is as high as the nave. Its wall is divided vertically by slender engaged columns ending in an arched corbel-table. Two tall square campanili, exactly similar and of simple design, flank the choir on either side at its junction with the east wall of the church. The double aisles give the interior an unusual breadth. The nave is in six bays, of which the westernmost has a gallery at mid-height which, as well as the space under it, is covered by a groined vault, the remainder of the nave and the aisles being covered by wooden roofs. The nave is flanked by massive round piers of masonry with exaggerated bases and rude block capitals; the two aisles are separated by slender monolithic columns with foliated capitals. Each line of piers and columns is joined by simple round arches, carrying a clerestory with a single narrow window in each bay, and is terminated eastward by a massive pier forming part of the support of the campanili. The four aisles end here in square compartments covered with groined vaults and with small apses in the thickness of the east wall. The long choir, opening from the nave by a round arch, is divided into two oblong bays, each covered by a four-part vault, and ends in the semicircular apse, with its hemispherical vault divided by ribs springing from vertical shafts, and decorated with frescoes of the XV century. The present church dates from 1095, when it was consecrated by Pope Urban II. It was built in connection with a convent of Benedictines founded by the bishop of Como in 1013, and on the site of an earlier basilica of which the foundations and the pavement were discovered beneath the present church in 1863. The pavement of the old church is about two feet below the present floor, and some of its stones have inscriptions showing it to date from the V century. Up to the IX cent. S. Abbondio was the Cathedral.

S. Carpofero, a rude old Lombard church standing on the slope of a mountain south of Como. The exterior is extremely simple, the west front half-buried in the rocky hillside. The eastern apse is polygonal in its external outline up to the floor of the choir, where it becomes circular, with engaged shafts over each angle of the wall below, ending in an arched corbel-table, the bays thus formed being occupied alternately by a round-arched window with angle shafts, and a small circular window. A tall square campanile is attached to the south wall of the choir. The interior has a nave and aisles about 90 ft. long, the nave about 30 ft. wide, the

aisles 15 ft., perfectly plain square piers at various distances, and round arches absolutely plain, of various sizes, supporting a clerestory wall. The walls of aisles and clerestory are pierced with small, narrow, round-arched windows. The transept arms open from the nave on either side with a single broad and high round arch, at about one-third the distance from the west front to the choir; a singular arrangement, perhaps due to the inaccessibility of the west end, making the south end of the transept the principal and entrance front. Two round arches span the nave in continuation of the walls of the transept. The nave, aisles, and transept were all covered with wooden roofs of low pitch, but the nave is now barrel-vaulted. The choir consists of a single square bay, covered by a four-part vault, and a round apse with a semi-dome, dating from 1040. Beside the choir a small groined chapel terminates the north aisle, with a small apse in the thickness of the east wall. The corresponding space on the south side is occupied by the campanile. The floor of the choir, raised some nine feet above the nave, is approached by two staircases, between which a third descends to a fine crypt beneath the choir, the only portion of the church which has been adorned. It is divided into three vaulted aisles by columns with foliage capitals carrying stilted round arches. The east end repeats the apse of the choir with the addition of three niches, in which are small windows. A small spiral stair in the angle of the north wall connects the crypt with the chapel terminating the north aisle. The church stands on the site of an older one founded by St. Felix, which served for a time as the cathedral. The present church dates mostly from the XI cent., the apse having probably been added a century later.

S. FEDELE, a curious Lombard church of the XIII cent., much modernized but substantially unchanged in plan and construction. The plan is peculiar, composed of a nave about 30 ft. broad in four oblong bays of unequal length; octagonal-ended transept-ends; a choir of a single oblong bay, terminating in a polygonal apse with a raised floor; and a somewhat elongated octagonal dome at the crossing. The aisles are in two low stories, carried around the transept-arms to the oblong bay of the choir, and separated from the nave and transept by two ranges of round arches springing from simple nave piers with a cruciform plan. The nave has a barrel-vault, but the aisles are covered in each story with four-part vaulting. The vaulting bays of the transept-aisles are alternately square and triangular, the square bays corresponding to the arches, the triangular bays to the piers, and the enclosing wall of the aisle has twice as many sides as the octagonal transept. This is the arrangement of Charlemagne's chapel at Aix-la-Chapelle and of the Rotonda at Brescia. In the upper aisles the same arrangement of vaulting prevails, but the vaults are inclined upward from the outer walls to those of the clerestory. The stone roof-covering is laid directly on the masonry of the vaults, and the nave is the only portion of the church which has a wooden roof. The central cupola is built on pendentives from four great arches at the crossing, and against the walls abut the octagonal vaults of the transept and the barrel-vaults of the nave and choir. The interior design of the apse is unique. It is in three stories, the first having a semicircular niche in each face, with a small window, and slender angle-shafts; the second an arcaded gallery, with a single round arch in each face; the third a plain wall with narrow windows, much spayed without. A simple moulded cornice finishes this wall, and from it springs the polygonal vault. The exterior is equally interesting. In two stories the angles are masked by strong columns. The third story is an open gallery with two round arches to

each face, each arch being the end of a barrel-vault, of which the other end abuts on the interior wall of the gallery. Above

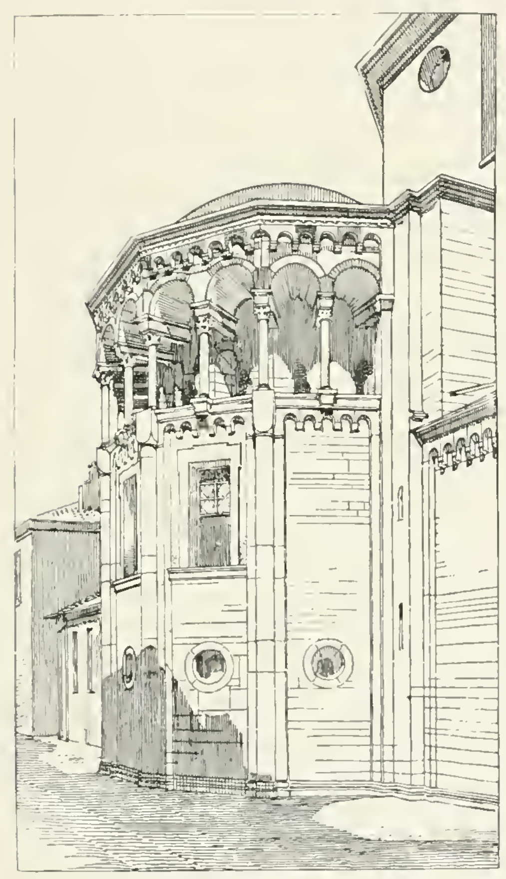


Fig. 51.—Como, S. Fedele, Apse.

is an arcaded cornice. The church had originally an atrium, which has disappeared. The foundation dates from 914, but it was rebuilt in 1262. Mothes presumes the apse to be a portion of the original structure. (*See Fig. 51.*)

CONSTANTINOPLE (Stamboul, anc. Byzantium), Turkey.

Aqueduct of Valens, crossing the valley between the third and fourth hills; finished in 378 A.D. It is about 2,000 ft. long, and 75 ft. high, and consists of two tiers of round arches, those of the lower tier 32 ft. high, those of the upper 27 ft. The span of the arches is about 30 ft. The masonry is densely covered with ivy, which adds greatly to the picturesqueness of the effect.

Basilica Reservoir, called by the Turks Yeri-Batan-Seraï—the Underground Palace. It was founded by Constantine the Great and restored by Justinian, and is still in use. The entrance is near Sta. Sofia. The dimensions are about 360 ft. by 195 ft., and there are three hundred and thirty-six columns, about 39 ft. high, in twenty-eight rows, supporting brick vaults. The capitals are in part Corinthian, in part of other orders, or rough.

Burnt Column. See *Column of Constantine.*

The great Cistern, believed to be the famous cistern of Philoxenos, called by the Turks Ben-Bir-Direk, or the hall of a thousand and one columns, is now used as a hall for winding silk. It has, or had, three stories of columns in fourteen rows of fifteen each, carrying stone vaults. It is of special significance in the history of architecture if, as is believed, it was built by Philoxenos, under Constantine, in the IV cent., for it gives then the earliest known example of the so-called cubic capital, which was a striking characteristic of Lombard architecture for centuries.

Column of Arcadius, formerly in the Forum of Arcadius, now enclosed in private property near the locality called Avret-Bazar. It resembled the Column of Trajan at Rome, and the shaft was carved with reliefs illustrating the wars of Theodosius. It was about 115 ft. high. It was overthrown by an earthquake in 740 A.D. The pedestal, about 20 ft. high, and a fragment of the shaft, still stand. In the pedestal is a sepulchral chamber, with a niche and a sculptured ceiling, and the beginning of the stairs by which the column was ascended.

Column of Constantine, also called Column of Porphyry, Burnt Column,

and Djemberli-Tach, standing on the summit of the second hill. According to tradition it was brought from Rome by Constantine, and the Palladium was buried under it. It consisted originally of nine drums, set one into another and carved at the joints with wreaths of laurel, so that it had the appearance of a monolith, and attained a height of about 150 ft. It was surmounted by a bronze statue of Apollo, the head of which Constantine replaced by his own. During the reign of Alexis Comnenus, the statue and the upper part of the column were thrown down by lightning; it was restored to receive a cross and the name of Manuel Comnenus. Six drums now remain, and rise to the height of nearly 115 ft.

Column of Marcian, called Kiz-Tach by the Turks, near the Mosque of Mahmoud Pasha, in private property. It is of white marble, about 33 ft. high, with a composite capital on which is a block with eagles at the four angles, which formerly supported the statue of the emperor Marcian. The pedestal of the column has wreaths on three sides, and on the fourth a dedicatory inscription between two winged figures.

Column of the Serpents, one of the most famous relics of antiquity, part of the monument erected before the Temple of Apollo at Delphi in commemoration of the Greek victory over the Persians at Platæa, in 479 B.C. It supported a tripod of gold, which was taken by the Phocians for their war expenses, but the column remained in place at Delphi until Constantine brought it to Constantinople to place it in the spina of the Hippodrome. It consists of three intertwined serpents of bronze, upon the widely diverging heads of which the tripod rested. The heads were broken off and stolen by night, about 1700. The names of the Greek peoples who fought the barbarian are inscribed on the coils of the serpents, from the third to the thirteenth, forming one of the chief epigraphic documents of history. Twenty-nine coils remain in the column, which rises to the height of 18 ft. The upper jaw of one of the heads is in the Museum at Constantinople.

Column of Theodosius, in the gardens of the Seraï, or Imperial Palace. It is in gray granite, about 49 ft. high, and has a Corinthian capital. The pedestal bears an inscription commemorating the overthrow of the Goths.

The Golden Gate, near the south end of the Walls of Theodosius, lies between two enormous, massive, square towers of white marble, preceded by a court formed by an outward inflection of the exterior wall. It consists of three openings—a great archway in the middle which was reserved for the passage of the emperor, with a smaller one on each side—and is now walled up, owing to a Turkish prophecy that the future conqueror of Constantinople shall pass through it. The towers were originally ornamented with sculpture. A Byzantine eagle still remains on that to the north. See also *Walls*.

Hall of a thousand and one Columns. See Great *Cistern*.

The Hebdomon is an ancient Byzantine building, dating probably from the first half of the IX cent., and occupying a part of the site of a palace built by Constantine, of which some authorities have believed it to be a portion. The building is of three stories, covering the breadth between the outer and inner city walls, but rising far above them. The lowest story has in the interior two rows of three columns each, with Byzantine capitals of various design, some of them of much elegance, joined by arches in two directions, which divide the space into twelve square groined bays. This story has openings only on one side—four round arches in pairs, the pairs separated by a square pier in the middle of the wall, and divided each by two slender columns coupled in the thickness of the wall.

Above a low second story, with single round-arched windows, is a great undivided hall 33 ft. by 74 ft., and 20 ft. high, of which nothing remains but the enclosing walls. These are faced on all four sides with an arcade of round arches enclosing windows, arched and square. The walls are of brick, with bands of yellowish marble, and varied by geometrical patterns of much beauty in the arches and spandrels. Narrow bands of copper follow the lines of the arches. The columns are of white marble. The ends of the building finish with very flat stepped gables.

HIPPODROME, occupying the modern At-Meidan area, beyond Sta. Sofia. The Serpent-Column, the Obelisk of Theodosius, and the Colossus Pyramid mark the axis of the spina in the middle of the arena, whose ancient surface is now 12 ft. underground. A series of enormous vaults, resting on huge pillars, constitute the substructions of the terrace built by Septimius Severus to increase the area of the arena. These vaults were once utilized as a reservoir. The length of the Hippodrome was about 1,400 ft., its breadth, 400 ft. The exterior was formed of superposed tiers of brick arches, faced by a Corinthian colonnade in marble. Between 1195 and 1203 the last races were held in the Hippodrome, in presence of the emperor, and in the decrepit arena, on the night before May 29, 1453, Constantine Palæologus gathered his shattered troops for the last struggle with the Turks.

MOSQUE OF AHMED, the largest mosque in Constantinople (not counting Sta. Sofia), a building some 240 ft. square, preceded by a forecourt nearly as deep, making a rectangle of about 240 ft. by 420 ft. It is situated in the At-Meidan or Hippodrome, and dates from the XVII century. The court has arcades on all four sides, each bay covered by a low dome, three entrance gates, and in the middle an ornamental fountain. There is a tall and slender minaret at each corner of the mosque, and of the court—six in all. Four enormous channelled piers, more than 30 ft. in diameter, carry the central dome, on four great pointed arches, against which lie four semidomes, making a Greek cross; and in its angles, at the corners of the mosque, are four small domes. Galleries, carried by ranges of columns, cross the ends of the transept, both inside and between the great buttresses without. The walls have a marble dado, and are decorated with arabesques and inscriptions, obscured by whitewash. The windows are filled with clear glass. The *mihrab*, or prayer-niche, faced with agate, jasper, and other costly stones, covers a precious relic in a piece of the holy black stone from the Kaaba at Mecca. The elaborate *mimbar*, or pulpit, is of stone, patterned after that at Mecca. This is



Fig. 52.—Constantinople. Mosque of Ahmed

the mosque of state of the Sultans of Constantinople, and contains also the Standard of the Prophet, which is never unfurled except at critical moments in the history of the empire. Near by is the tomb of the founder, Ahmed I., who began the mosque in 1608. (*See Fig. 52.*)

Mosque of Eyub. A xv cent. mosque, situated in a suburb at the head of the Golden Horn. It is built of marble, the exterior very plain, with a single dome surrounded by four minarets. The windows are filled with gilded lattice-work. The interior is lined with marble, and contains the tomb of Eyub, the companion and standard-bearer of Mohammed, killed during the first Arabic siege of Constantinople in the vii cent. and buried outside the walls. Mohammed II. (1451–81) to whom the position of his grave was revealed, built the mosque in the xv century. It is held peculiarly sacred by the Turks, and is the place of consecration of the Sultans. It is closed to Christians.

Mosque of Mohammed. A xv cent. mosque, modelled approximately after the church of Sta. Sofia. There is a forecourt, and behind the mihrab a garden, containing the tombs of Mohammed II. and his family. The court has cloisters on three sides, supported on marble and granite columns, and each bay roofed with a lead-covered dome. In the centre is the usual fountain. The interior decoration is in the style of the other Turkish mosques. The mosque, founded by Mohammed II., the conqueror of Constantinople, in 1453, stands on a high terrace upon the highest hill in the city, and occupies the site of Justinian's Church of the Apostles, which was pulled down to make way for it. It was designed by a Greek architect and finished in 1469. In 1763 an earthquake greatly injured it. The repairs were made in the quasi-Italian style of the period, in which the original aspect of the mosque is quite lost. Connected with it are eight Turkish colleges.

Mosque of Osman, built by Sultan Osman III., in 1755, a square covered by a large central dome, flanked by two minarets, and supported on four great arches. These are filled by screen walls, which are pierced by round-headed windows filled with tracery. In front is an octagonal court, surrounded by an arcade of horseshoe arches carried on high, slender pillars. Cross arches separate the bays, which are crowned by domes on circular drums pierced by arched openings. In the outer walls are long, trefoil-headed windows. Lighted as it is, the Turks call the mosque Nur Osmanli, or the Lantern of Osman.

Mosque of Suleiman. A xvi cent. mosque, built by Sultan Suleiman II. In front is a forecourt 150 ft. by 190 ft. internally, and at the rear is a garden court containing the tombs of the founder and members of his family. It is substantially like Sta. Sofia in plan, though of different proportion, being nearly square, 205 ft. by 225 ft. outside. The great dome, standing on four piers, is abutted in front and rear by half-domes, as in Sta. Sofia, the three together covering the nave. The side-aisles are subdivided into five bays, each covered with a small dome, and are separated from the nave by triple arcades on columns of porphyry 35 ft. high. These carry screens perforated with windows, filling the side pier-arches, as in Sta. Sofia, and serving as clerestories. Against the aisle-wall is a low arcade carrying a gallery. The central dome is 86 ft. in diameter internally, and 156 ft. high. Ranges of windows at the base of each dome and in the walls light the interior. The mosque is stuccoed on the outside, and the dome covered with lead. The façade is adorned with six immense and beautiful pillars of Egyptian porphyry, and there is a minaret at each corner of the court, tall, slender, and crowned by a high conical roof. All the arches are pointed, but the windows in the lower story are mostly square-headed. The arcade

which encloses the courtyard is supported on columns of Egyptian granite and marble. Each bay has a low dome crowned by a pinnacle. In the centre is an elaborate fountain. The tomb of Suleiman in the rear court is a domed octagon, 46 ft. in diameter, built of colored marbles and surrounded by an aisle. The mosque was designed by the Sultan's famous architect Sinan, and built between the years 1550 and 1555, of materials mostly taken from the large Christian church of St. Euphemia at Chalcedon. It is simple in detail, but of fine effect; much smaller than its prototype, but of loftier proportion, as naturally follows the use of the pointed arch.

Obelisk of Theodosius, brought from Heliopolis, in Lower Egypt, by the Emperor Julian, and set up by Theodosius in 390 A.D., in the centre of the spina of the Hippodrome. It is a monolith of pink Syene granite, about 61 ft. high and 6 ft. square at the base, inscribed with hieroglyphs on its four faces. The four angles of the base rest on four cubes of bronze $1\frac{1}{2}$ ft. square, on a pedestal of marble carved with rather rough reliefs representing Theodosius and his court and the machinery used in the erection of the obelisk. The total height of the pedestal is 15 ft. The apex of the obelisk upheld a sphere of copper, which was thrown down and broken by an earthquake. The inscriptions show this obelisk to be the first one quarried under Thothmes III.

The Pantokrator, or the Church of The Omnipotent, now used as a mosque under the name of the Kilissi Jami, was built in the first half of the XII cent. by Irene, wife of the emperor John Comnenus. It is really an agglomerate of two small twin churches set side by side, and connected by an additional nave which separates their adjoining aisles. This makes a rectangular building about 150 ft. across from north to south, and 80 ft. deep from east to west, consisting of three naves, and the four aisles that flank and separate them, ending in seven eastern apses. The twin churches are of a common Byzantine plan, each being a Greek cross, with wagon-vaulted arms and a central dome, the re-entrant angles filled out to a square and covered with small domes. Before the southern church is a great narthex of ten vaulted bays. The apses are polygonal without; those of the three naves have seven sides. The eight great columns which, according to Gyllius, up to the XVII cent. carried the principal domes, have been replaced by Turkish piers. Parts of the handsome old marble pavement are still left.

Reservoir of the Patrician Modestus, built in 369 A.D. It is large, with sixty columns and good capitals. It is now closed, but the interior can be seen by a grating near the Boudroum Mosque.

Reservoir of Arcadius, near the Mosque of Selim. It is one of the best preserved of the ancient reservoirs of Constantinople, and is not, like most, entirely underground. It rises to a height of about 17 ft. above the surface, and has about the same depth below. The exterior wall is very thick: it has two round-arched windows and a door which is approached by a flight of steps. The vaults are supported on twenty-eight columns in two ranges, with handsome Corinthian capitals. This reservoir is now entirely dry and is occupied by silk-weavers.

Reservoir of Theodosius, close behind the reservoir or Hall of a thousand and one Columns. It is 138 ft. long and 75 ft. wide, and contains thirty-three beautiful columns.

St. Irene, originally built by Constantine, and burned with the old Sta. Sofia early in Justinian's reign, was rebuilt by Justinian, and after being shattered by an earthquake, under Leo the Isaurian in the first half of the VIII cent., was rebuilt, probably in the form in which we now see it. It is now a Turkish arsenal. Its plan is a rectangle about 140 ft. by 90 ft., includ-

ing a great nave of two bays. The square eastern bay is covered by a main dome on a drum, supported by pendentives on four piers. The shorter western bay has a low dome, of elliptical plan, without a drum. The nave is prolonged eastward in a sanctuary under a tunnel-vault, ending in an apse, round within and semi-octagonal without. These bays are stayed on each side by aisle-bays, with transverse tunnel-vaults which run through the walls, and show on the outside as great arches filled with screen walls pierced by many windows. The great side-arches within are half-filled with a range of small arches on square piers, which carry a women's gallery over the aisles. This gallery on each side communicates with the second story of a narthex, which crosses the west end of the church. The drum of the main dome is pierced by twenty windows with buttresses between. The walls outside are striped horizontally with brick and marble; the inside is severely plain, and relieved only by one or two string-courses of marble. (*See Fig. 53.*)

St. John's, a small church of the V cent., said to have been built by Studios in 463 for a convent of Silent Monks, and perhaps the oldest existing Byzantine church, is now a mosque. It is a three-aisled basilica, about 85 ft. by 125 ft., with an open narthex, women's galleries over the aisles, and a single eastern apse, round within and semi-octagonal without. The nave is unusually wide—some 48 ft.—and was probably covered, as it now is, by an open-timbered roof. It is bordered by two ranges of superposed columns; the lower range, Corinthian, carrying a lintel and cornice that support the gallery floor. The upper range is now of wood, but the original marble columns supporting an arcade were seen as late as 1809 by Choiseul Gouffier. Two tiers of windows light the church through the aisles. The clerestory, if there was one, is displaced by a single-pitched roof covering the whole. The narthex is an open tetrastyle porch, with a complete entablature, lavishly decorated with carving in all its members. The style is transitional between classical and Byzantine, and the workmanship admirable.



Fig 53.—Constantinople, St. Irene.

SS. SERGIUS AND BACCHUS, the forerunner of Sta. Sofia, founded under Justinian in 527, consists of a central octagon, much like that of S. Vitale in Ravenna, but set in a square, resting on eight piers and arches, and covered by a low dome of 55 ft. span. High round niches open from the diagonal faces of the octagon, their walls pierced by triple arches in two stories, as at S. Vitale. Flat screen walls repeat the same treatment in the cardinal arches, except the eastern, which opens into the sanctuary, which ends in an apse of Byzantine form that protrudes through the outer wall. The lower range of columns bears a complete entablature, which encircles the piers also, the upper columns carrying arches. The space between the octagon and the surrounding square forms an aisle, the second story of which, corresponding to the upper range of columns, is a women's gallery (*gynæceum*). The dome is of singular construction, with fluted or scolloped section, so that the exterior looks like half a melon. To the flutings correspond lunettes at the base, every other one of which is pierced by a window. The front is crossed by a narthex in two stories, the upper communicating with the gynæceum. The detail is early Byzantine, the capitals and entablatures richly carved, the former mostly with stilt-blocks and of pseudo-Ionic form. The church contains an inscription commemorating its foundation by Justinian and Theodora. It was converted into a mosque by Mohammed II., and so remains, being called by the Turks the little Sta. Sofia.

STA. SOFIA (St. Sophia, Turkish Aya Sofia), the boast of the Emperor Justinian, who built it, and the greatest of all the Byzantine churches, perhaps of all Christian churches, is now the chief mosque of Constantinople, and therefore of all Islam. It covers an enormous rectangle about 245 ft. by 225 ft. inside the walls. Within the mass of brickwork, lately stuccoed and striped red and white, which covers this area the church may be said to be concealed, for the towering outer walls, more than a hundred feet high and overgrown at their base by a crowd of parasitic buildings hide the structure and disposition of the church ; little is seen but the many windows, and from a distance the group of low domes and buttresses that crowns it, surrounded by the four later minarets. The body of the church is an immense oval hall, or nave, 100 ft. wide and 225 ft. long, and nearly 185 ft. high in the centre to the crown of the great dome. This nave consists of a central square, a hundred feet across, extended east and west by semicircles of like diameter, and is farther lengthened by the apsidal *bema* or sanctuary at the east, and a corresponding recess at the west, making the whole length over 260 ft. The central square is covered by the great main dome, which, without a drum, rests directly on its pendentives, borne by the four corner piers and by the connecting arches that span the nave with a clear opening of a hundred feet. Two half domes of like span cover the semicircular ends of the nave, abutting closely against the cross-arches, and rising with their crowns to the level of the springing of the main dome, which seems to sit upon them. The side arches under the great dome are filled with arcades in two stories, which bear screen walls that are themselves pierced in the tympana with a series of openings. The semi-domes rest each on two piers that stand on the circumference of the semicircle below, as at the corners of an octagon. These piers are joined by arches which open into round apses, so that three apses group about each semi-dome, the smaller half-domes with which they are covered cutting like lunettes into the semi-domes. The apses are lined, not with walls, but with arcades like those which close the side arches of the great dome. But at the west end instead of the middle apse is the recess just men-

tioned, communicating by three doors with the porch which is the main entrance of the church. The church, therefore, is nowise cruciform, as it has been called, nor basilical, nor aisled, but consists of a single nave of a peculiar shape that has not been repeated. The spaces on each side the nave, divided into separate chambers by the main piers, which extend laterally to the outer walls, are connected into a sort of aisle by arches that pierce the piers, and are cut off by them from the nave, communicating with it at intervals through the arcades under the great arches. Over these aisles is the woman's gallery, or *gynæceum*, which, continued in the second story of the western porch, makes the circuit of the nave on three sides, overlooking it through the upper arcade under the great arches. The porch, in two stories, is a great narthex, running across the front and opening into the church by nine doors. Outside this is an outer narthex of one story, and in front of it an open court, probably the original atrium, surrounded by low buildings which replace or travesty the original arcades. The interior effect is perhaps the grandest in the world. The great mediæval cathedrals are longer; the dome of St. Peter's is a third wider and nearly twice as high; yet the greatest mediæval naves are little more than half as wide as Sta. Sofia's and much lower, and even the nave of St. Peter's is much smaller, and itself conceals the dome, while the huge single order dwarfs it; but in Sta. Sofia no part obscures or belittles another, the great dome soars out of the others with increasing size and height, the superposed arcades add to the lofty effect and the eye takes in the whole interior in one view. It is of unexampled magnificence. The hundreds of columns are monoliths of verd-antique, porphyry, and other costly stones; the walls are clad in varied marbles; capitals, spandrels, archivolts, and cornices are covered with lavish carving or inlay of marble, and all the domes are rich with mosaic of gold and colors. A boldly corbelled gallery makes the circuit of the nave above each arcade, and marks the division into stories. The decoration of marble and mosaic is continued through the gynæceum and both stories of the inner narthex. Forty windows pierced in the base of the principal dome and many more in the walls give the church an ample light. (See Frontispiece.) The Turks, on taking possession of it, covered all the mosaics throughout with whitewash. When it was restored by Fossati, they were uncovered, and only the figure subjects were again concealed. The *mihrab*, or tabernacle with the prayer-niche, the Sultan's pavilion, and other Mohammedan fittings, have taken the place of the



Fig. 54. – Constantinople, Sta. Sofia.

Christian altar and furniture. Sta. Sofia is the typical example of Byzantine architecture, the greatest instance, next to St. Peter's, of a dome on pendentives borne by four piers, and the oldest important one that exists. No Gothic church is more purely structural. The main dome, buttressed laterally by the great piers which spread sidewise to the outer walls, is balanced east and west by the semidomes that lean directly against the cross-arches on which it stands. The semidomes in their turn are propped by the triple apses that cluster about them, and these by the buttressed vaults of the side chambers; the outer walls are needed only to enclose the included space. Every dome and every vault is its own roof; and above the high walls every part confesses the structure within. (*See Figs. 54, 55.*)

The original church was built by Constantine, we are told, in 326, and was a flat-ceiled basilica. This church was burned in the sedition called the Nika (in 532), which destroyed a considerable part of the city and nearly cost Justinian his throne; but in forty days he had laid the cornerstone of the new building, which he superintended in person, plundering the cities round about of their materials and burdening his realm with special imposts. He pressed the work with such enthusiasm that in less than six years the church was consecrated, in the name of the Divine Wisdom, Ἁγία Σοφία, on the 26th of December, 537. He exclaimed, "I have surpassed thee, O Solomon," and doubtless he had—or rather his architects had, Anthemios of Tralles and Isidoros of Miletos. Justinian's prime requirement had been that it should be impossible to burn the church, and Sta. Sofia is of solid masonry, within and without, from top to bottom. In twenty-two years an earthquake threw down the dome, which was too flat; it was rebuilt, higher and more secure, and Justinian reconsecrated the church in 566. Though shaken at intervals by earthquakes, it has not sufferred seriously since that time. It was plundered, but escaped destruction, when the city was stormed and half burned by the crusaders in 1204, and in 1453, at the taking of the city by the Turks, when, as the story goes, Mohammed II. rode up to the altar and gave the signal for massacre of the Christians who had taken refuge there, he respected the building, and at once made it the chief mosque of the city. Four minarets were successively built about it by Mohammed II., Selim II., and Amurath III. It was elaborately restored under Abdul Mejid in 1847 by Fossati, an Italian architect, as is noticed above.

Of the early buildings that clustered about the church most are destroyed or disguised by alteration. The most important that remains is the Baptistery on the south. It is small, square below and octagonal above, and domed. Inside, the

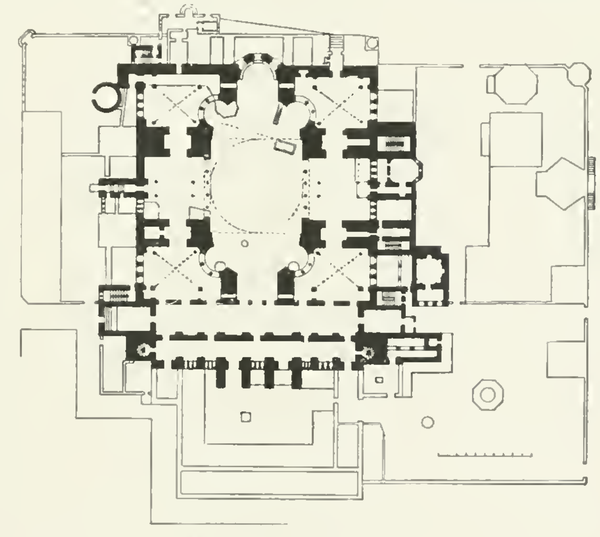


Fig 55.—Constantinople, Sta Sofia. Scale of 100 feet.

plan is an octagon with niches on four sides at the corners of the square, and a square niche projecting eastward. It has been utilized by the Turks for a mausoleum.

The SULTAN'S PALACE, or Old Seraglio, dating from the XV cent., situated upon the easternmost hill of Constantinople (Stamboul) on a point of land washed by the Sea of Marmora, the Bosphorus, and the waters of the Golden Horn, is a vast walled enclosure divided into three large irregular courts adorned with groves and gardens and crowded with buildings erected at different times, and in no architectural order. The surrounding wall, which on the water side is a continuation of the city wall, is reinforced by numerous towers now falling to ruin. The first of the three divisions is called the Court of the Janizaries, and is entered through the Bab Humayun or August Gate, translated by the French into Sublime Porte, the name by which the Turkish Government is now diplomatically known. In this court is the church of St. Irene (*q.v.*), founded by Constantine and used by the Turks as an armory. The second court, entered through the Bab-el-Selam, or Gate of Health, is surrounded by an arcade of slender marble columns and arches, and contains, with many other buildings, the Divan, or Hall of Justice, and the reception hall. The first is a large, vaulted hall, lined with gilded marble arabesques. The reception hall is supported by six enormous columns, which, with the walls and ceiling, are delicately carved, painted, and gilded. The third, or imperial court, sacred to the royal family, entered from the second by the famous Bab Seadet or Gate of Felicity, contains the Hall of the Throne, a small, square building with a rich doorway flanked by two fountains and surrounded by a marble gallery. The site of the Seraglio is that of the acropolis of ancient Byzantium, which under the Greek Empire was occupied as a college for the priests of Sta. Sofia. Mohammed II., on taking the city in 1453, appropriated the site for his palace, which was constantly added to and beautified by his successors until it enclosed a circumference of several miles, and could accommodate at one time a number of inhabitants variously stated at from six to twenty thousand. It was abandoned in the present century, and in 1863 a large part of it was burned. The new palace, or Dolma Bagsche, outside the city, is a modern building of great size and splendor, but of little architectural charm.

The THEOTOKOS (Church of the Mother of God), as the Greeks call it, now a mosque, is believed to be that of a convent which was built under Leo VI. (886–911). It is small, being only about 80 ft. long, but of elaborate and picturesque design in plan, a Greek cross enclosed in a square, with three eastern apses, the western front crossed by a narthex that has been completely covered by a greater *esonarthex*, or outer porch, built about it on three sides at a later time. The central dome stands on pendentives on four columns; its drum, arcaded on the outside and pierced with windows, stands on a square base against which abut the gabled roofs that cover the vaults of the four arms of the cross. The apses are peculiar, the middle one being five-sided, with three windows separated by clustered shafts for angle-piers, and the side ones opening with doors in a flat wall. The esonarthex is elaborately built, banded in brick and marble, with an open arcade in front, and three high domes, whose drums are not windowed or arcaded like that in the centre.

WALL OF HERACLIUS, built in 640, and extending from the termination of the Walls of Theodosius, at the Tower of the Hebdomon, for about two-thirds of a mile, to the walls of the Golden Horn. The wall is battlemented, over 12 ft. thick, and strengthened by about twenty

ATHENS—CHORAGIC MONUMENT OF LYSICRATES







great round or octagonal towers, and it remains in excellent condition.

WALLS OF THEODOSIUS, extending in a general northeasterly direction from the Sea of Marmora for three and one-half miles toward the Golden Horn, and ending at the Tower of the Tribunal of the Hebdomon, built by the Emperor Valens. The inner wall was defended by ninety-four great towers, and the outer wall by seventy-one turrets, all built of massive masonry. There were five gates; those that have left the most important remains are the Golden Gate and the Polyandria Gate, now called the Adrianople Gate. Many of the towers and long stretches of the curtains of the inner wall remain very perfect. These walls present one of the most impressive spectacles of the kind.

CORI (anc. Cora), Latium, Italy.

ANCIENT BRIDGE, spanning a ravine on the road to Norba. It is of a single arch of tufa, 69 ft. high, of massive irregular masonry, and ranks with the most remarkable monuments of its class in Italy.

TEMPLE OF HERCULES, so-called, of the time of Sulla, a graceful Roman-Doric building, which despite the discrepancy of proportions recalls in its feeling Greek work, especially such work as the Pompeian decorations. The temple stands in the citadel, near the church of S. Pietro; the front portico is complete, except its roof, together with the front wall and door of the cella. The portico is tetrastyle, with two columns intervening on each side between the angle-column and the anta of the cella. The columns are slender (the height of the shafts is seven diameters), with low capitals and bases of Ionic type. The architrave is very low, and the frieze has triglyphs at the angles, in the Greek manner. The pediment too, is low. The framing of the cella door is richly moulded, and the lintel is surmounted by an elaborate cornice. The intercolumniation is wide (4 ft. 8 in.).

WALLS, of which some portions are as late as the time of Sulla. The oldest parts are of enormous unhewn blocks of limestone; the next period is represented by carefully jointed polygonal work, and this is followed by the earliest Roman work in excellent ashlar. The good preservation of the walls, and the reunion in them of the masonry of widely separated periods render them especially interesting.

CORINTH, Greece.

ARCHAIC DORIC TEMPLE at the base of the Acrocorinthos, commonly known as the Temple of Corinth. Its ancient attribution is unknown. The existing remains consist of several columns of the west front and the south flank with several blocks of the architrave. The material is rough limestone, which was originally primed with a fine reddish-yellow stucco. The floor was covered with a stouter stucco, stained red. The temple was peripteral, hexastyle, with fifteen columns on the flanks, on a stylobate of three steps. The cella had pronaos and opisthodomos with two columns *in antis*, and was divided into two cult-chambers. The roof of the west chamber was probably supported by four columns; that of the chief chamber by two ranges, probably each of four columns. The shafts of the surviving columns are monolithic, without entasis, with but little decrease in diameter toward the top, and with twenty channels. The capitals are heavy, with wide-extending echinus and thin abacus. The lower diameter of the front columns is to their height as 1 to 4.19; of the side columns, as 1 to 4.42. The Doric convex curves are present, the middle columns of the west front standing 2 cm. higher than the angle-columns. The lowest of the steps of the west stylobate is hewn from the rock, thus precluding the possibility of any settling. The chief dimensions of the temple are: length on upper step, 175 ft.; width, about 70 ft.; diameter of columns of fronts, 5 ft. 8 in.; of flanks, 5 ft. 4 in.; front in-

tercolumniation, 13 ft. 1½ in.; side intercolumniation, 12 ft. 2 in.; angle intercolumniations, less by 8⅜ in.; height of columns, 23 ft. 8 in. Large Roman roof-tiles in terra-cotta have been found in plenty, showing that the temple was rebuilt by the Romans after the destruction by Mummius, but it dates certainly from well back in the VI cent. B.C., and is perhaps as early as the VII century. Leake and some others have identified this temple as that of Athena Chalinitis.

TEMPLE OF APOLLO, with a statue in bronze, on the right-hand side of the street leading from the Agora to the Sicyon Gate. Remains which probably come from this temple have been found amid the ruins of an old Byzantine church or a late Roman building, lying about 1,500 feet to the north of the well-known Temple of Corinth. These remains consist of a number of Doric column-drums, built into the north wall of the ruin, and a fragment of a Doric architrave 5 ft. 9 in. high, in Poros stone. The remains indicate a temple contemporaneous with and larger than the Temple of Corinth, and as large as the Olympieum at Olympia.



Fig. 56 Corneto, S. M in Castello.

VAULTED TOMB, discovered in 1881 to the east of Old Corinth near the Great Gate. The greater part of the monument was unfortunately destroyed at the time of its discovery by workmen making a road. Its chief importance lies in the painted decoration of the interior, which consists of four zones, occupying the whole field. The two middle zones contain human figures, the chief scene represented being a funeral banquet. In the two other zones are portrayed flowers and fruit, with birds. The drawing is good, and the colors were fresh and bright when the painting was uncovered. The original was at once copied in fac-simile for the Museum at Athens. This tomb is the only one of its kind which has as yet been found in Greece proper, and bears a strong analogy to a well-known class of Etruscan tombs, and to those of the Crimea or Cimmerian Bosphorus. Its date has not yet been determined, but it is certainly late.

CORNETO, Italy.

S. FRANCESCO is interesting from being one of the few remaining Franciscan churches in the early Italian Gothic style built before the middle of the XIII century. The nave has ribbed cross-vaults over square compartments, the aisles over oblong compartments. The ribs are a plain, flat moulding, as at Sta. Maria di Castello; the piers are grouped. There are virtually five aisles, the two outer ones being in the form of chapels opening out with pointed arches. Some of the capitals with heads and animals are still Lombard. [A. L. F., JR.]

S. MARIA IN CASTELLO is a church in Lombard style, dating from the XI century. The façade, somewhat later than the body of the church, and inscribed with the date 1121, has three round-arched doors, with windows of like shape above. Its original outline following the nave and aisles may still be seen, but it has

been built up square over the two half gables of the aisles. The plan is basilican, but with no transept, and has three round eastern apses, decorated with slender engaged columns and corbel-tables. The vaulted nave has five bays corresponding to ten in the aisles, and ten pairs of arches on cruciform piers, with engaged vaulting-shafts (the intermediate shafts being neglected in the vaulting) surmounted by the clerestory windows. Over the central bay was a dome on pendentives, which has lately fallen. On the mosaic floor stands a handsome mosaic pulpit bearing the date 1208, and the baldacchino, of similar style, is dated 1168. (*See Fig. 56.*)

CORTONA, Italy.

The CATHEDRAL (Sta. Maria) is a Renaissance church of the end of the XV cent., whose design has, with some uncertainty, been ascribed to Antonio da Sangallo. Its plan is a rectangle measuring about 75 ft. by 160 ft., with its nave separated from the aisles by arcades of six round arches on each side, springing from Corinthian columns with blocks of entablature, and a continuous entablature over the arches from which springs the plain barrel-vault of the nave. The aisles are divided by transverse arches into square groined bays, each with an arched altar-recess, and lighted by a small round window. The nave opens by a triumphal arch springing from Corinthian columns into a square choir covered by a low domical ceiling and flanked by two square chapels. The exterior is simple. The front has a central doorway flanked by detached columns with blocks of entablature supporting a round arch. Over the doorway is a round window with deeply profiled mouldings. A square bell-tower, of which the design is attributed to Francesco Laparelli, stands at the S. E. corner of the choir.

MADONNA DEL CALCINAJO, known also as the Madonna della Grazie, was begun in 1485 from the designs of Francesco di Giorgio, of Siena, as a thank-offering for the deliverance of the town from the famine of the previous year, and finished in 1514. Its plan is a Latin cross about 170 ft. long and 110 ft. across the transept, divided into a nave, transept, and choir, without aisles or chapels, all covered by plain barrel-vaults, and the crossing by an octagonal dome raised on a high drum, with a window in each face enclosed by an order of columns and pediment. The architecture of the exterior and interior is in exact correspondence, the height being divided by superimposed orders of pilasters, with rectangular windows in the second story like those under the dome. The façade has a single doorway flanked by engaged columns carrying an entablature surmounted by a semicircular pediment, and a round window above.

STA. MARIA NUOVA, a Renaissance church dating from the middle of the XV century. Its plan is a square of about 70 ft., disposed as a Greek cross, with the centre covered by a hemispherical dome on a drum pierced by square windows; the four arms of the cross by high barrel-vaults, and the square bays in the angles by low domical vaults. From the eastern arm opens a square tribune with a similar vault, flanked on each side by a rectangular room. The exterior has three similar and gracefully proportioned façades, each divided in three by flat pilasters, carrying a light entablature. The central compartments are raised to cover the arms of the cross, each being pierced by a round clerestory window, crowned with a low pediment, and flanked by light scroll buttresses. Below are small rectangular central doors and windows, surmounted by pediments.

COSA. See *Ansedonia*.

COTRONA (anc. Crotona), Calabria, Italy.

TEMPLE OF HERA LACINIA (Juno of the Lacinian promontory, now Capo della Colonna, at some distance south of Cotrona). The temple rose from a great

platform of masonry on the extreme point of the promontory, so that it still serves, with its single surviving column, as a beacon for mariners. It remained almost complete, with forty-eight columns standing, down to the beginning of the XVI cent., when it was in great part pulled down for rebuilding the episcopal palace of Cotrona. It was further damaged by an earthquake in 1638, and its crepidoma has since furnished much material for the construction of the moles of Cotrona. The column is of the best time of Doric, the second half of the V cent. B.C.; the shaft has sixteen channels, and no entasis. The base diameter is 5 ft. $10\frac{3}{4}$ in., the height, including the capital, 27 ft. $2\frac{1}{2}$ in., or 4.65 diameters. The echinus is full and the abacus thick. The temple was hexastyle, with fourteen columns on each flank, and an interior range of four columns before the pronaos. Lenormant's opinion that this temple was very old was shown to be incorrect by J. T. Clarke's partial excavation in 1887. This excavation brought to light a cornice-block, a triglyph, part of the tympanum cornice with a Doric cyma, all of beautiful execution, and several fragments of the marble pediment-sculptures. Many bronzes, terra cottas, and some ancient glass were also found. This was no doubt the most important Doric temple of the Italian mainland.



Fig 57 Crema Sta Maria della Croce.

CREMA, Italy.

Sta. Maria della Croce, a curious example of an early Renaissance church in which the traditions of Romanesque architecture still linger. It is a tall cylindrical brick building, about 85 ft. in diameter, surrounded by two stories of flat pilasters with entablatures, one of coupled windows under broad arches, and an arcaded upper gallery of round cusped arches on slender columns, much in the style of the earlier Lombard churches. It ends with an arcaded cornice under a low-pitched roof. Attached to this central building on four sides are low square pavilions terminated each by a bulbous dome of oriental aspect, with four lesser domes at the angles, partially concealed by shed-like roofs. The interior is octagonal, four sides being occupied on the lower story by very flat niches, and the other four open to the pavilions above mentioned, through round arches. Three of them are used as porches, while the fourth, of which the floor is raised, is a tribune or choir. In each corner is a slender detached shaft running up to a high entablature over the great arches of the first story. Above this is a second arcade, opening into an inner gallery which surrounds the rotunda beneath the octagonal dome. The dome is not seen outside, being concealed by the eaves-gallery, as in most of the baptisteries of North

Italy. The church, built between 1490 and 1515, by Giovanni Battista Battaglia, an architect of Lodi, seems to show the influence of Bramante mingled with that of Gothic tradition. (*See Fig. 57.*)

CREMONA, Italy.

The BAPTISTERY, an octagonal brick building about 80 ft. in outside diameter adjoining the cathedral. The entrance front, faced with marble, has a projecting porch with a round arch carried on columns resting on lions. Above a high plain first story runs an arcaded gallery about 12 ft. in height, with slender columns. The building was originally covered by a low dome, which became unsafe and was taken down. The walls were then carried about seven ft. higher, with round windows in each face, and a new dome of greater height was built, showing on the exterior an octagonal lantern with columns at the angles, square openings, and a domical roof. Within, the walls are in three stories, the first showing on each face three stilted recessed round arches on marble columns. Above these, resting on corbel courses, are two arcaded galleries in the thickness of the wall, with occasional windows. Above the upper gallery, at the height of about 50 ft., springs the pointed octagonal dome, bearing the lantern. A round apse projects from one side, and altars are set on three other sides. A large font occupies the middle of the floor. The original baptistery is said to have been built as early as 900, but the present building is probably not older than 1167, and tradition assigns to it one Theodosio Orlandini as its architect.

The CATHEDRAL, a remarkable church of various dates and styles, originally built from 1106 to 1190, in which latter year it was consecrated. Its design is attributed to the architects Ognibene and Ossolaro, and its plan, as built by them, consisted of a nave and two aisles, with three eastern apses. To this plan a century later was added an immense transept considerably longer than the nave and choir and higher, with aisles. The exterior presents many interesting and unusual features. The great façade, banded in white and red marble, has no relation to the interior. It is a Romanesque design deformed by tasteless additions. For nearly one-half its height the wall is unbroken except by the central porch and two unimportant doorways. The porch, added in 1274, is of two stages; first a broad pointed arch springing from single columns that rest on lions; above, a light loggia of three pointed arches on columns also resting on lions. Over the porch is a large rose window, all of red marble, cutting up through the horizontal cornice of the gable, which is rather to be called a pediment. On either



Fig 58.—Cremona, Cathedral, Front Porch.

side of the rose are two arcaded galleries. The pediment is truncated and surmounted by a Renaissance composition of pilasters

and niches, entablature and pediment. At the corners are high round angle-turrets with open cupolas and round spires. The transept fronts, shams like the west front, are divided by flat pilasters into three compartments with grouped windows both round and pointed. The north transept has a projecting porch under three rose-windows, and a low gable with arched corbel-table, decorated mouldings, and three octagonal turrets similar to those of the west front. The east end had a round apse with a gallery piercing the buttresses and running round the apse under the windows. The ornaments of doors, windows, and cornices, including cusps, diapers, tracery of rose-windows, etc., are all executed in brickwork. The interior has been partially modernized but retains its principal features substantially unchanged, nave piers alternately round and clustered, carrying round arches, with triforium and clerestory above: nave and aisles vaulted in oblong bays, the former with sharply pointed arches, a fine crypt under the choir, with apsidal end, divided into three vaulted aisles of equal width by two rows of coupled columns. The walls and vaults of the church are decorated with frescoes of various ages, the oldest believed to date from the middle of the XIV century. (*See Fig. 58.*)

Fig 59 — Cremona, Pal. dei Giureconsulti.

A little north of the church, but connected with it by a modern arcade of bad classic design, is a square campanile rising to the height of 396 ft., called the Torazzo, with numerous stories divided by string-courses, grouped windows with pointed bearing-arches increasing in size and importance as they ascend, and finished with an octagonal belfry in two stages with octagonal spire. The tower was begun in 1283 to commemorate the establishment of peace between the cities of Cremona, Milan, Piacenza, and Brescia. It was only roofed in 1581.

Palace of the Jurisconsults, an interesting example of the civic architecture of North Italy in the Gothic period. It is a small brick building of two high stories, with faces on two streets. The first story was originally open, as in the *broletti*, or town-halls, with tall pointed arches, springing from square brick piers. These arches are now filled up and the story is used for shops and apartments. The second story presents a row of triple windows, of admirable design, the openings pointed and divided by slender marble columns, and enclosed within broad and high

pointed arches deeply splayed, with good Gothic mouldings within a broad band of ornament, the whole executed in brick-work of admirable character. There is an arcaded cornice under a battlemented parapet. The building dates from 1292 and was originally built for the *Gonfalonieri* or mayors. (*See Fig. 59.*)

CROTONA. See *Cotrona*.

CURZOLA, Dalmatia.

The Cathedral (S. Marco), a Gothic church dating probably from the early part of the xiv cent. with an attached campanile of the xv century. It has a nave of five bays with side aisles, and three round apses on the east. The bays are square in the aisles, groined without ribs, and divided by wide transverse arches. The nave has a flat plastered ceiling: the main and cross arches are pointed. The columns are round monoliths with high Attic bases and spreading capitals varying in design and execution. The apses open to the church by round arches and have semidomes. Above the arcades is a triforium of round arches in pairs with coupled columns between, over which is a clerestory with single cusped and pointed windows. In the xvi cent. an additional aisle was added on the north side. Over the high altar is a baldacchino of three receding stories pierced with tracery and supported on four columns with renaissance capitals. The façade has a Gothic doorway of much beauty, with twisted jamb shafts, flanked by coupled columns supporting heavy consoles which bear conventional lions. The gable is pierced by a traceried rose window. The campanile is plain to the top, where it ends with an arcaded parapet of trefoiled arches and a beautiful octagonal lantern in two stories supported on clustered colonnettes.

The Franciscan Convent is on an island to the east of Curzola. The buildings date from the xv century. The church, begun in 1493 and consecrated in 1533, is very plain but has a graceful western door with sculptured tympanum, and a rose-window in the gable above. The east end is square, the chancel being covered by a four-part vault on slender ribs, and the nave by a pointed wagon-vault. The cloister, bearing date 1476, is one of the best in Dalmatia. Triple pointed arches resting on slender round columns are separated by piers with attached half columns. The arches are stilted, and cusped into trefoils, with carved spandrels all Venetian Gothic in style.

CYZICUS, Asia Minor.

Temple of the Emperor Hadrian, now a mass of practically unexplored ruins. It was begun in 123 A.D., dedicated in 167, and was considered one of the most splendid edifices of its time. It probably remained almost perfect until 1063, when it was thrown down in part by an earthquake, and it has since suffered greatly from the depredations of the Turks, who long used it as a quarry. The temple was of white marble, peripteral, hexastyle, with fifteen columns on the flanks, of Corinthian order. The cella was relatively small, there being neither pronaos nor opisthodomos, but in place of the former four rows, and of the latter two rows of interior columns, placed in both cases in the axes of the columns of the façades. The dimensions of the temple are estimated as follows: Length, 301 ft.; width, 112 ft.; cella, 140 ft. by 70 ft.; diameter of columns, 7 ft.; height of columns, 70 ft.—the most lofty of any classical temple;—intercolumniation, 21 ft. It thus appears that all the dimensions were exact multiples of the base-diameter of the columns. The pediments were ornamented with sculptures, which appear to have been placed, not in the tympana, but on pedestals like steps along the slopes above the upper cornice. The interior of the cella was surrounded with a range of small columns which supported galleries, and there was a system of crypts in the substructure. The magnificence of the

marble ceiling and pavement are recorded by ancient authors.

There are important remains of the walls and towers, particularly two fine octagonal towers.

Fig. 60.—Damascus, Great Mosque

DAMASCUS, Syria.

The Great Mosque is built, according to tradition, on the site of an early Christian church, perhaps of a still older temple. It occupies a quadrangle about 500 ft. by 320 ft. — the longer diameter east and west. The hall of worship (*liwan*) occupies the south side toward Mecca—a structure of three long aisles, running east and west, and together about 125 ft. wide. They are divided by rows of columns carrying arches, slightly pointed, and a wooden roof. The columns which support the outer arcade, next the court, have been built into piers to strengthen them. In the middle the liwan is crossed by a transept, at the end of which is the principal entrance from the court, a triple archway, flanked by heavy piers. At the intersection with the middle aisle is a high pointed dome on an octagonal drum carried by four massive piers. In the south wall are four *mihrabs*, or prayer niches, assigned to the different Mohammedan sects that divide Damascus, the principal one, behind the dome, being that of the Hanefites. Over them is a range of round-arched windows filled with stained glass. The open court to the north is surrounded by an arcade of round arches on slender columns, with coupled windows above. Two great porches in the east and west axis of the quadrangle give entrance to the court, and there are three minarets outside the enclosure, one at the middle of the north front, one each at the S. E. and S. W. corners. At the western end of the court-yard is a curious little octagonal domed building, lifted into the air on eight marble columns, with finely cut Greco-Roman Corinthian capitals, which carry an architrave. This structure, called Kubbet-el-Khasneh, or Dome of the Treasure, is said to contain old books and treasures. It has no stairway and is never opened. In the early days of Islam this mosque was renowned for its splendor, and there are still traces of its magnificence in remnants of mosaic and gilding. Near the central dome is an elaborate shrine believed to contain the head of John the

Baptist, who is held in reverence by the Moslems. Over the western porch still stand the remains of a Corinthian portico and pediment in Syrio-Roman style, as old as Justinian or older, in which a great arch cuts out the middle of the tympanum, with the whole entablature bent over it for an archivolt, as in the palace at Spalato. The frame of a doorway of the same period is imbedded in one of the walls. A church dedicated to the Baptist is said to have been built or restored here by the Emperor Arcadius at the end of the IV century. After the Mohammedan invasion, we are told, it was for some time used conjointly by Christians and Moslems; but the Calif Walid I. excluded the Christians, and remodelled it into a mosque in 705. It was partially burned at the time of the crusades, and destroyed by Timur the Tartar at the beginning of the XIV century. It was rebuilt by the Arabs, but has never recovered its splendor, and is now much degraded. According to late news (1894) the mosque has suffered very seriously from a recent fire —how much is not clear. (*See Fig. 60.*)

ROMAN GATE, called the Bab es-Sharki, or East Gate, on the east side of the city, at the end of the ancient Roman colonnaded street called the Via Recta, remains of which survive underground. The gate has three arches, and presents an imposing appearance. The north arch is now used, the others being walled up. The central arch is about 39 ft. high, with a span of nearly 20 ft.

TRIUMPHAL ARCH, at the entrance of the present book-bazar, the structures of which mask it in great part. At each side there is a massive square pier ornamented with pilasters. The elegant Corinthian capitals of these pilasters rise above the roof of the bazar and support the noble arch. The frieze and cornice are finely carved. The monument is about 80 ft. wide and 65 ft. high, and formed the western entrance to the enclosure of the ancient temple whose site is now occupied by the Great Mosque. Between the arch and the temple extended a double colonnade about 195 ft. long.

DAPHNE, near Athens, Greece.

The CONVENT CHURCH is one of the most remarkable Byzantine churches in Greece, distinguished for the mosaics on gold ground that line the interior, and notable for some differences in plan from the usual Greek type. It is small, like all the Greek Byzantine churches, making a rectangle about 50 ft. by 70 ft. There is as usual a central square or nave covered by a dome, but here it occupies most of the width of the church, so that all three apses open from it. The dome is not carried on four main piers but on longitudinal walls that enclose the nave, and on a pair of piers between the apses at the east end, and a similar pair between arches at


Fig. 61.—Daphne, Convent Church.

the west. Double squinches cut off the corners of the square and bear a ring-cornice on which stands the drum of the dome, dodecagonal without and lighted by twelve windows. The transept-arms are reduced to mere lateral vestibules, and small vaulted chambers fill out the angles, while a great groin-vaulted narthex, nearly as high as the nave, crosses the whole front. The apses are of the usual Byzantine form — semi-hexagons without and round within. Transept and flanks are lighted by triple windows, with mullion-shafts and stilted round arches. Against the south side is a cloister of low pointed arches on round shafts with rude capitals. The convent covers the site of a temple of Apollo, from which several columns still remain on the site. (*See Fig. 61.*)

DELOS, Cyclades, Greece.

Agora, adjoining the so-called Trochoidal Basin, or Sacred Lake. It was in the form of a rectangle surrounded by porticoes with double ranges of marble columns —some of them unfinished—open toward the interior of the agora, and closed by walls at the back. Upon the epistyles were cut inscriptions in large characters, chiefly Roman. About the sides of the agora were monumental exedræ, some of them decorated with sculptures and mosaics, and many statues of Roman officials and private benefactors of Delos. At the northern side of the court were a series of small quadrangular enclosures apparently ornamented with works of art.

Exedra of marble, in the Agora. It is in part well preserved, and its floor is ornamented with a mosaic of good workmanship, representing a vase, a palm, and other emblems, and an inscription within an elaborate border. The remaining portion of the mosaic is about 6 ft. by 9 ft. The colors are yellow, red, green, and brown. Remains of other exedras exist near those of this one.

Gymnasium, near the eastern port. This was the chief gymnasium of the island, and has left considerable remains. In plan it was a quadrangular enclosure measuring about 520 ft. round, having on the inner side a peristyle enclosing an open court. Within the peristyle there were several chambers of different sizes for the various uses of those exercising, together with exedras with white marble seats for resting or for spectators. A number of monolithic arches of blue marble have been found, of about 5 ft. in span. These belonged to an arcade, the position of which has not been determined. The interior walls were coated with stucco colored red. The discovery of a number of ephebic inscriptions places the identification of the monument beyond question.

A second Gymnasium, north of the Trochoidal Basin, had columns on at least two sides. A few are yet in place. The capitals are Doric, of inferior style.

The Hermaistai, an association of merchants and sailors—especially of Romans or Italians—had a magnificent establishment about 312 ft. by 230 ft. situated between the Temple of Apollo and the Sacred Lake. It comprised an open, trapeze-shaped agora or court, about 230 ft. by 164 ft., surrounded on all sides by Doric porticoes, and with one principal entrance on the west side. Behind the porticoes were buildings divided into rooms opening either on the bounding streets or on the porticoes. The buildings on the south side appear to have been of more than one story. Marble pilasters of Ionic order corresponded to the columns of the porticoes and supported a massive entablature. In some places there were large recesses like rooms screened off by Ionic columns forming a double portico. The porticoes were of marble, and all the architectural elements have been found. The Doric columns, simply cut in facets below, were channelled as usual above. Traces of blue and red color survive upon portions of the entablature. The rear walls were built of granite ashlar covered with stucco and

painted red. The porticoes were further ornamented with many marble statues and benches and with rich mosaics, and the borders of the central court were adorned with exedras and with statues. There were cellars under the buildings, used as storehouses for merchandise and amphoras of wine. The association and its establishment date from about 130 B.C.

PRIVATE HOUSE, of Alexandrine epoch. There was a central court surrounded by a portico, with a fountain in the middle. Twelve rooms have been excavated about the court, of which the pavement is a fine mosaic, in which figure fish, flowers, and other ornaments. The atrium was surrounded by twelve Doric columns in white marble. There are plentiful remains of private houses upon the island, but they are still almost entirely unexplored, being under considerable masses of earth. The interior walls of some which have been summarily examined were found to be covered with stucco, painted in brilliant colors, and fragments of marble columns have been discovered in the courts.

STOA, to the westward of the Temple of Apollo, near the colossal statue of the god. The bases of four Ionic columns are still in position, on a stereobate of two steps. Some of the capitals lie near by, and other architectural fragments, especially a piece of the gutter decorated with the anthemion and with lions' heads, copied from that of the temple. The work is rough, and the date late.

STOA OF PHILIP, near the smaller propylæum and the port. It was composed of two porticoes more than 325 ft. long, of Doric columns, one opening toward the sea on the west, the other looking landward. According to the inscription on the architrave, it was dedicated to Apollo by Philip V., king of Macedon, son of king Demetrius. It was built during the Macedonian domination over the Cyclades, between 205 and 196 B.C. The columns were channelled only in the upper two-thirds, the lower third being simply planed. The echinus of its capitals, in the form of a truncated cone, bears witness by its dry outline to the debasement of Hellenic architecture.

STOA OF THE POSEIDONIASTAI, in their establishment. The plan is still undetermined. In the middle was a reservoir, about 27 ft. by 19 ft. Along its sides were rough arcades, and the masonry of the whole was covered with cement. About it was a Doric portico whose columns rested upon a stylobate of marble. Their channellings are shallow, and the outline of the capitals debased. Four fragments of architraves bearing monumental inscriptions with letters over 2 ft. high have been found in the neighborhood. They are too large to have been connected with the reservoir portico, and belonged probably to a system of porticoes enclosing the entire establishment similar to those of the Hermaistai.

TETRAGON STOA, east of the Stoa of Philip. It consisted of a Doric portico surrounding a quadrangular court. Beneath the portico were entrances to booths or shops; thus in design it was not unlike the great enclosure of the Hermaistai. In the middle of the court stood a rectangular edifice of Ionic order, probably a temple. This stoa was built in great part by Italian residents, in 97 B.C.

TEMENOS OF THE FOREIGN OR EGYPTIAN GODS. The enclosure, about 500 ft. by 90 ft., occupied a long and narrow terrace upon the western slope of Mount Cynthus. The temenos was, in part at least, paved with stone, and divided by retaining walls into smaller terraces with steps of marble. It contained one chief temple—the Serapeum—a number of smaller shrines dedicated to various divinities, and many votive statues, reliefs, and altars. A number of the gods whose shrines adorned this precinct were worshipped in common, with joint rites. Among the divinities so hon-

ored we find in the inscriptions discovered the names of Serapis, Isis, Anubis, Sosis, Zeus Ourios (of the fair wind), Aphrodite (Astarte), Apollo (Harpocrates). The worship of the foreign gods was probably introduced in Delos, and this temenos founded, in the course of the II century B.C.

TEMPLE OF APOLLO. This renowned temple was situated N. W. of Mount Cynthus, and near the central or Sacred Harbor. Its plan is very similar to that of the so-called Theseum at Athens. Its dimensions are a little smaller. The foundations of the temple were laid chiefly on the surface of the sloping ground, and so were higher at the west end than at the east. These substructions consisted of a single course, about 6 ft. wide, of huge blocks of schist beneath the peristyle columns, forming a rectangular wall of the same exterior dimensions as the temple itself, and of a solid mass of three courses of masonry beneath the cella, of which the walls formed the chief weight to be supported. The space between the two portions of the foundations is 4 ft. 3 in. on the long sides, and 9 ft. at the ends of the temple. The space left vacant between the two walls was filled with earth or rubble, and paved at the surface of the crepidoma. The temple was Doric, hexastyle, peripteral, with thirteen columns on each flank, resting on a crepidoma of three steps above the stereobate. Its ground plan was 96 ft. 9 in. by 44 ft. 6 in.; the cella, 67 ft. 7 in. by 24 ft. 8 in. The cella comprised a pronaos, a naos, and an opisthodomos. The western stylobate was 8 ft. above the ground. Access to it was afforded by steps of marble resting on a substruction of schistose stone. All the elements necessary for a restoration on paper of the exterior have been found. The metopes were unsculptured; but the pediments were probably filled with sculptures, though no fragments of such sculptures have been identified. The cella frieze within the peristyle was not decorated, unless perhaps by a running honeysuckle ornament, or the like. The peristyle columns were channelled only at the base of the shaft and at the neck of the capital, showing that the edifice was never entirely finished. Their diameter at the base was 3 ft. 3 in.; at the neck 2 ft. $3\frac{1}{2}$ in (?); their height, including the capital, was 17 ft. Between the antæ in front and rear stood two columns, similar to those of the peristyle, but smaller. The intercolumniation, from centre to centre, was about 7 ft. 8 in. The height of the entablature was 5 ft. $10\frac{1}{2}$ in.; of the architrave-blocks including the tænia moulding, 2 ft. $6\frac{1}{3}$ in. The crowning moulding of the cornice, forming the gutter, was decorated with the anthemion or honeysuckle ornament, and with a lion's head over every triglyph. The blocks of masonry were secured together by I-clamps of iron, set in lead. An inscription tells us that the temple underwent repairs between Olympiads 110 and 150—probably in the course of the III century B.C. Scanty traces of decoration in color survive. The material used was Parian marble throughout, except for the rough foundations. It contained a colossal statue of Apollo by Tektaios and Angelion, of which some fragments have, it is believed, been found. This temple, like all Greek temples of great religious or political importance, was also a depot of archives, a treasury, and in a measure a museum, owing to the works of art consecrated in it. A very rich series of inscriptions, extending from the VII cent. B.C. to the reign of the Emperor Titus (79–81 A.D.), has been found. They not only give very careful lists of the objects preserved in the temple, but make important additions to our knowledge of Greek history, civil and religious.

Primitive TEMPLE OF APOLLO, upon the slope of Mount Cynthus, a little below the summit. This archaic sanctuary, the reputed birth-place of Apollo and Artemis, and the seat of one of the renowned ora-

cles of antiquity, was partly natural and partly artificial. Though rude, it is, in the survival of the interior and exterior arrangements connected with the cult, probably the most perfect surviving Greek temple. A natural depression in the rock some 15 ft. square was closed in front by a wall of rough-hewn granite blocks. In this wall a door was left with sides inclined inward. Upon either side a deep cut was made in the rock to receive the great stones of the ceiling, which inclined against each other in the middle, forming a ridged roof 19 ft. above the floor. The joints between the roof-stones were filled to keep out rain-water with a mixture of small stones and pure lime—not mortar. Above the roof were piled in confusion blocks of granite. There seems some reason to believe that the inner end of the temple, behind the statue, was never roofed over. If so, we have here an example of an edifice hypæthral in the sense which was long undisputed. The pedestal of the statue was a rough natural block—an *omphalos* revered as representative of deity in remote antiquity. It stood back of the middle of the cella. In later times, a beautiful statue of Apollo in Parian marble was placed upon it. Of this the left foot and a portion of the plinth still remain upon the omphalos. It is estimated that the figure was 7 ft. 6 in. high. The sacred spring still fills a cavity 6 ft. deep beside the omphalos. In front of the temple is a terrace about 30 ft. by 40 ft. communicating toward the south with a second of of about equal size, and decorated of old with votive inscriptions and sculptures. In the midst of it is a circular base of white marble which bears still the three marks of the feet of the tripod of Apollo. The position of an altar is also clear. Access to the temple from the plain was given by a carefully constructed Sacred Way up the mountain.

Temple of Artemis (Diana) or Artemision, near the Temple of Apollo, upon whose cult it was dependent. It contained a celebrated statue of the goddess. Homolle found north of the larger propylæum the remains of an Ionic temple, which was probably this Artemision. The foundations are of very archaic masonry composed of large blocks of granite very imperfectly squared and joined. Near this building Homolle found a number of female statues—one of them the oldest known Greek statue in stone—which as he believes represent Artemis.

Temple of the Bulls, east of the Temple of Apollo, 220 ft. by 29 ft. The long, narrow building running north and south was divided into three parts, indicated now by massive foundation-walls crossing it near the north and south ends. Upon the north foundation-wall rests a marble sill, still bearing the bases of the two famous bull-pillars, consisting each on the side toward the middle of a plain square pilaster with a capital formed by a couple of kneeling bulls carved in the round as far as their shoulders, and with an Ionic architrave of three fasciæ resting on their necks, while the opposite half of each pillar, toward the side-walls of the temple, was a complete Doric semi-column of late form. Against the walls were doubtless placed pilasters in the line of the pillars. The northern chamber was the cella proper of the temple and contains indications of an altar. In it were found fragments of a frieze in low relief, which probably surrounded the interior. It was doubtless separated from the central hall by a metallic grating. The entire central portion of the middle gallery was paved at a level about 1 ft. 8 in. below that of the pavement of the narrow passageway, even with the floor of the cella and of the pronaos, which surrounded this depression. There is reason to think that each side-wall was pierced with large window-bays, divided into three lights, perhaps, by small monolithic pilasters with Doric capitals, of which specimens were found. The south-

ern division of the monument was an ordinary Doric pronaos of four columns, prostyle, the side-walls being extended so as to form antæ of considerable projection on either side of the door-way. The triglyph-frieze was doubtless carried completely round the building. There was no gutter. All the elements necessary for a restoration of the roof have been found. Sockets were cut in the inner side of the cornice to receive the ends of the solid timber framework which was left open. The main tiles were of marble about 6 ft. 6 in. long, hollowed out in soffits on the under side, which was also decorated in color. The antefixæ of both cornice and ridge were of elegant design. Homolle believes that this remarkable building was the shrine of the famous Altar of Horns, said to have been made by Apollo himself, and that the altar stood in the cella at the northern extremity.

The Portico of the Bulls, forming a monumental whole with the Temple of the Bulls, was over 300 ft. long, Doric, with a double range of columns, and two projecting wings with a greater number of ranges of columns. From the middle of every triglyph of the frieze projected a bull's head. These triglyphs were formerly believed erroneously to belong to the building now termed the Temple of the Bulls. This portico was rich in detail, and architecturally magnificent.

Temple of Leto (Latona), or the Letoön, near the Temple of Apollo. Homolle discovered (1877) close to the north side of the Temple of Apollo the remains of this temple, supposed at first to be that of Artemis, but now believed to be that of Leto. It was Doric, tetrastyle, amphiprostyle; ground-plan 67 ft. by 37 ft. 7 in. It had a pronaos, naos, and opisthodomos, and was closed on the east and open on the west side. The material is white marble, the work careful; the cornice like that of the Temple of Apollo, the metopes polished, and traces of painting on the triglyphs. In date it was posterior to the Temple of Apollo, and probably built in the course of the III century B.C.

The Temple of Serapis, or Serapeum, in the Temenos of the Foreign Gods, stood on a small terrace about 3 ft. above the main terrace. It was placed exactly north and south, the entrance being at the south end, and was of marble, consisting of a simple cella and a pronaos with two plain columns *in antis*. Its dimensions were about 23 ft. by 44 ft. It had no stereobate; and the walls rested upon a single foundation-course of roughly hewn stone. There are indications that the columns of the pronaos were flanked by marble screens, and that a grating of metal was fixed between them. These precautions bear witness to the treasures offered by the pious and preserved within the temple. In the middle of the cella was a large marble altar, of which the foundations are still in place. The roof was covered with marble tiles 22 in. long, and 4½ in. thick in the middle, whence the upper surface sloped toward the sides. The lower end of those next the gutter was decorated with an anthemion. The projecting gutter formed a sort of cornice 8 in. deep, decorated with lions' heads. It is possible that the Serapeum was also dedicated to Isis, and termed the Isieum.

Theatre at the foot of Mount Cynthus. It is partly excavated from the hill, but the extremities are supported by walls of white marble. In plan, it is little more than a semicircle. The marble seats have all disappeared, but the granite substructions remain.

Wall, on the slope of the theatre hill, between the sanctuary of the Cabiri and the bed of the Inopus. It was built of large rectangular blocks of marble, and was carved with inscriptions in honor of individuals, both foreigners and natives, and with their busts in high relief, in circular medallions. There are indications

that there were several tiers of sculptures and inscriptions, one above the other. The medallions were tangent in couples. The workmanship is rather rough. The date of this monument, unique of its kind, is probably 101 B.C.

DELPHI, Phocis, Greece.

PERIBOLOS or sacred enclosure of Apollo, of great extent, occupying the most elevated part of Delphi, and described as having many gates. Within it were the great temple, a series of treasuries similar to that at Olympia, and many minor buildings, besides countless works of art and other votive offerings. The most notable of the many surviving fragments is the so-called *Helleniko*, a massive wall over 350 ft. long and of considerable height, about parallel with the polygonal wall of the temple-terrace and with the south side of the temple. The polygonal retaining-wall of the temple-terrace has been followed for a length of about 250 ft. but was longer, and stands about 10 ft. high at the west end of the explored portion, and about 8 ft. high at the east end. Transverse walls running north and south completed the support of the terrace, which rested against the natural slope on the north side. The wall is of beautiful workmanship, the stones being large, and the joints in curved lines exactly made. The exposed surface is smoothed, and closely covered with inscriptions of all kinds. On top of the polygonal wall are from one to three Hellenic courses, each 1½ ft. high.

PORTICO OF THE ATHENIANS, excavated in 1880 by the French School at Athens. The portico faced the south, its back being apparently applied against the Pelasgic retaining-wall of the terrace of the Temple of Apollo. It is not yet entirely excavated at the east end, but appears to have been about 100 ft. long, and to have had eight columns in front. The depth of the portico, measured from the edge of the stylobate, was 12 ft. 2 in.; the height of columns 10 ft. They were Ionic, with sixteen flutes and delicately moulded bases, but no capitals have been found. The entablature was undoubtedly of wood. It is presumed that the portico was built about 460 B.C. after the naval victory of Athens over Ægina, and that later trophies of the victories of Phormion in 429 were set up in it—perhaps affixed to the entablature.

TEMPLE OF ATHENA PRONOIA (Minerva the Provident), or, more probably, Pronaia, Before the Temple (of Apollo) in allusion to the original foundation of the goddess, which was a small chapel within the sacred peribolos. The temple was one of a group of four at the eastern entrance of the city, and was recognized by Ulrichs in 1838 in the foundations, on the terrace, of a circular temple of Doric order, with fragments of columns, architraves, triglyphs, etc., of fine workmanship. Ulrichs held that this temple had a pronaos in the form of a portico, but was not surrounded by columns, its plan being like that of the Pantheon at Rome. In the pronaos stood a colossal statue of Athena, in bronze, given by the people of Marseilles; and a smaller statue of the goddess was in the cella.

TEMPLE OF PYTHIAN APOLLO, built after the destruction by fire, in 548 B.C., of an earlier temple described as of great size and admirable construction. But a small part of the foundation of the temple remains above ground, and no excavations of much extent have been made. The architect was Spintharos, of Corinth. The order was Doric, and the building was presumably hexastyle. The portions of columns found on the site are in tufa (Poros), coated with a fine stucco, and have twenty channels. Upon the architrave were affixed shields taken at Marathon and from the Gauls. The metopes of the east front represented scenes from the Labors of Hercules, Bellerophon, and the Chimæra, and episodes of the wars of

gods and giants. The sculptures of the east pediment represented Apollo, with Artemis, Leto, and the Muses; those of the west pediment Bacchus surrounded by his attendant Thyiades. They were by the Athenians, Praxias (a pupil of Kalamis) and Androsthenes. Within the cella, before the statue of Apollo, was the famous omphalos stone—the reputed centre of the earth—the sacred hearth on which burned the eternal fire, an altar to Poseidon, and statues. The walls of the cella were decorated with paintings. The chamber behind the cella was the adytum or sanctuary of the Pythian oracle. It contained a gilded statue of Apollo, and over the fissure in the ground from which the prophetic afflatus emanated was placed the lofty tripod upon which the Pythia seated herself to receive the divine inspiration.

Theatre, within the peribolos of Apollo. As late as the xv cent. it remained in very perfect condition, but it is now built over by the houses of the village, and in great measure destroyed. Many scattered fragments of walls, and remains of the seats of the auditorium, are, however, still visible. The diameter is about 260 ft.

DERAT (anc. Edrei), Hauran, Syria.

Kanatir Firaun (Pharaoh's Arches), a great aqueduct said to have been built by the Ghassanid king, Jebeleh I. It is about sixty miles long and crosses all depressions by bridges. It feeds a large reservoir in Derat, near which is an ancient building, probably a bath.

DER EL-ASHAIR, Syria.

Roman Temple, Ionic, on a basement 10 ft. high which rests on a platform of masonry. The platform is surrounded by a balustrade, and the basement by a moulded cornice. The interior is ornamented with pilasters, above which probably stood small Ionic columns, several of which lie on the ground.

DER EL-KALA, on Mt. Lebanon, Syria.

Temple of Jupiter (Baal), Balmarcodes (of dancing-festivals?). The substructions survive, 105 ft. by 52 ft., built of large drafted blocks. Some portions of the columns also remain; these formed a prostyle portico of two rows of four columns before the cella. The columns were about 6 ft. in diameter and as imposing as those at Baalbek. Near by portions are seen of the Phœnician peribolos or inclosure, built of enormous hewn blocks.

DIABEKIR, Asia Minor.

Great Mosque, a building of unknown age, on a site once occupied by a Christian church, and previously by a Pagan temple. It has the common form of a court-yard surrounded by porticoes and small buildings, the fourth being occupied by the sanctuary. The porticoes and arcades are supported by elaborately sculptured columns. Here, it is conjectured, was the forum of the Roman city. Most of the buildings now bear inscriptions cut in Cufic letters, the work of the Mohammedan conquerors. The sanctuary, or mosque proper, is said to be much older than the surrounding buildings, and was originally a temple. The front, uncompromisingly plain, is of dark basalt. The interior is divided into three long aisles running east and west, crossed at right angles by a high transept. The heavy dividing arcades consist of great round arches, above which is a row of smaller ones. The ancient altar stood, it is said, on the south side of the building. All the former decoration is now concealed by whitewash.

DIANO. See *Teggiano*.

DIDYMA. See *Branchidæ*.

DIMINI, near Volo, Thessaly, Greece.

Domical Tomb or tholos, of the same character as those at Menidi, Mycenæ, Orchomenos, Pharis, and the Heræum of Argolis. In its dimensions (interior height, 29 ft. 6 in., lower diameter, 27 ft. 11 in., height of doorway, 11 ft. 10 in.) and its construction of small, roughly broken

blocks of limestone, it is closely parallel to the first of those tombs. The apex was closed by a circular block 3 ft. 7 in. in diameter. The door was approached as usual, by a walled *dromos* or passage. Within the tomb were found objects of gold, glass, bone, bronze, stone, and a few fragments of vases, all of Mycenæan character.

DODONA, Epirus, Greece.

ACROPOLIS. The massive fortification-wall, from 10 ft. to 17 ft. thick, is now nowhere over 10 ft. high; the length of the quadrilateral circuit is about half a mile. Part of the wall is ancient polygonal, but most of it is Hellenic of a good time. There are towers on three sides of the fortress. The interior is full of Hellenic ruins which are still unexplored. This site was recognized as that of Dodona in 1873.

The SANCTUARY OF ZEUS, the seat of the famous oracle, contained two temples of no great size, of which some architectural remains survive. On the foundations of the chief of these temples was built a Christian church, now destroyed. A number of bronzes, inscribed utensils, and small figures of Zeus have been found here. There exist also remains of a square building, perhaps a lodging for priests, and some portions of the peribolos wall. Near the wall are seen traces of a number of votive monuments, including substructions, pedestals, and pilasters for offerings of various kinds. Near by is the site of a temple of Aphrodite, which was identified by the objects dug up.

THEATRE, one of the largest and best preserved of Greek monuments of this class. It is in part excavated from the Acropolis hill, in part supported by retaining-walls of excellent masonry which attain a height of over 72 ft. The diameter of the cavea is 426 ft., which is greater than that of Epidaurus. There are arches in the substruction of the front walls. Two flights of steps along the front walls facilitate access to the cavea, and two more are carried up to the upper gallery along the curved walls of the back. There are eight radial flights of steps below the diazoma, which has a double passage, and sixteen above it. Forty-nine tiers of seats are visible, but more exist beneath the present surface. The orchestra and stage structure are as yet unexcavated.

DRAMYSSUS, Epirus, Greece.

THEATRE. The peribolos wall of the ancient sanctuary, which is 15 ft. to 20 ft. high and flanked with towers, forms an irregular quadrangle, partly adapted to the requirements of the site of the theatre, the middle part of which is excavated from the hill. The ends of the cavea consist of great masses of masonry, faced with rectangular stones, fitted without cement. The substructions of the scena are still to be seen. In plan, the theatre is little more than a semicircle; greater diameter, 460 ft., orchestra, 80 ft. The seats, sixty-five or sixty-six rows, are divided by two diazomata or horizontal passages, and there is a passage round the top with remains of a portico. The seating capacity was about twenty thousand.

EDESSA (Orfa, anc. Rohas), Syria.

ANCIENT WALLS of the city, which was in plan an irregular triangle, with the citadel at the N.E. angle. The walls are contemporaneous with those of Antioch, which they resemble closely, but are much more perfect, and present an imposing aspect, being studded with many square towers. The castle or citadel is about 1300 ft. long and 325 ft. wide, and has fifteen towers in its outer walls; it was altered and strengthened by the Crusaders, who built the keep.

EGESTA. See *Segesta*.

ELATEA, Phocis, Greece.

TEMPLE OF ATHENA KRANAIA, within the sanctuary north of the city. It contained a statue by the sons of Polycles, representing the goddess armed for battle: her shield was carved in imitation of the

shield of the statue of the Parthenon at Athens. The temple occupied a raised terrace within the sacred enclosure, on the highest part of the rocky eminence, and one of its flanks was supported by a solid retaining-wall extending above the stereobate of the temple, so that on this side the columns were crowded against the wall. The diameter of the columns at the base is 2 ft. 6 in. There were six on the fronts, and thirteen on the flanks; and the dimensions of the temple were very nearly the same as those of the Theseum at Athens. The material was Poros stone. Capitals of two types were found, one presenting the curve of a good period of art, the other having a straight profile, and the thin abacus of a later date. The metopes (without sculpture) and triglyphs were cut on the same blocks, like those of the Propylæa at Athens. No fragments of pediment sculptures were found. The roof-tiles and the antefixes, decorated with anthemia, were of terracotta, and the cornice was crowned with a gutter in terra-cotta, bearing lion heads and anthemion-mouldings of excellent design, and traces of color. The temple was oriented north and south.

EL-BARA, Syria.

This abandoned town of the V to VII cent. A.D., preserves several of its streets paved with large blocks of irregular shapes, and a number of dwellings and other buildings closely resembling those of the Hauran (*q.v.*), and almost perfect except for their gabled wooden roofs. The groups of houses have a plain wall on the street, with one door, square-headed or arched, leading into an oblong interior court. On one side or more of the court there are arcades or porticoes in two stories. The capitals are usually of calyx form, with varied ornament. Behind the arcades open chambers of moderate size. The floors are of flat slabs of stone. The masonry of the walls is in large blocks without mortar. The doors and windows opening on the arcades are often sculptured with vine-leaves, acanthus designs, vases with peacocks, etc., and Christian emblems occur. Among the buildings are two churches of the usual early Syrian plan: simple basilicas with nave, aisles, and a single apse hidden behind a straight east wall, the arcades borne on columns.

In the Necropolis there are interesting rock-tombs, and also tombs built of masonry. Among the latter are three which consist of a cubical base supporting a hollow pyramid. One of these has around its substructure three tiers of low pilasters and two ornate friezes. A door opens into the interior of these tombs and sarcophagi were ranged around the walls.

ELEUSIS, Attica, Greece.

The PERIBOLOS, or sacred enclosure of the Great Goddesses (Demeter and Persephone), enclosing the *Sekos* or Sanctuary of the Mysteries, and a number of shrines and temples, was girt with double walls, having a considerable space between them, and in later times the inner court was paved with slabs of Poros. The court was ornamented with many statues and other votive dedications, and contained inscribed slabs in large number.

GREATER PROPYLÆA, or entrance gates to the outer enclosure of the sacred peribolos. The gates face the N. E. The monument is a close imitation, of Alexandrine date, in Pentelic marble, of the Propylæa of the Athenian Acropolis. An ascent of six steps led to a portico of six Doric columns, with a double interior range of six Ionic columns before five doorways, the middle one being the widest, and a Doric portico on the S. W. similar to that on the N. E. The ground-plan is 70 ft. square. The lateral walls terminated in antæ on each front. The dimensions of the Ionic columns (twenty-four flutes) were: lower diameter 3 ft. 4 in., upper 2 ft. 9 in., height, estimated, 32½ ft.; columns of exterior order (twenty channels), lower di-

ameter, 5 ft., upper, 4 ft. The coffers of the ceiling were decorated with star-like figures in the central field, and painted mouldings.

Lesser Propylæa, or gates of the inner enclosure. This monument, whose ground plan was 39 ft. by 49 ft. 7 in., dated from the second half of the IV cent. B.C., and was restored by Appius Claudius Pulcher, three hundred years later. It consisted of three gates, with an approach between parallel walls, and with two columns before the separating piers, something in the manner of a temple *in antis*. The capitals of the Roman restored antæ are richly carved with griffins, and bore tripods. The vestibule is raised by two steps above the level of the outer court, and is paved with large blocks of marble. The central doorway, 35 ft. from the front, was 11 ft. 4 in. wide. The inclined plane to the door retains marks of wheels. The pivot-holes of the doors and the grooved quadrants for their rollers show that they must have been massive and heavy, and this testimony is confirmed by that of inscriptions recently discovered.

The Sekos, or sanctuary for the performance of the Eleusinian Mysteries was a rectangular building, in its latest form 184 ft. by 221 ft. including the portico 44 ft. 3 in. deep on the east front. The portico had twelve columns in front and one on each flank. Access to the interior was afforded by six doors: two on the east of the portico, and two each on the north and south, between the six rows of seven columns, running north and south of the interior. The whole interior, except at the doorways, was surrounded by a tier of seven steps, forming seats for the initiated during the mysteries. These seats, and the floor also at the back of the building, were hewn from the rock; in the other portions, as the rock slopes downward toward the east, the seats were built up, and the earth filling of the floor was probably covered with a pavement of Poros slabs. The walls were about 4 ft. thick, and built of a double range of blocks of the local stone, resting on a stereobate. The six rows of interior columns, seven in each, stood on the native rock toward the back of the building, and were carried on built-up foundations toward the front; they were of Poros drums, unfluted, with circular bases of the local stone, the bases having a diameter of about 4½ ft., and a height of about one foot. The columns of the portico were of Pentelic marble, and are shown, by the channelling existing only at the top and the bottom of the surviving drums, never to have been finished. From the great depth of the portico, and the absence of any trace of an interior range of columns, it must have had a ceiling of wood. The frieze did not bear sculptured ornament, as a plain metope has been found. The later adjunction of the portico, as set forth by Vitruvius, is plainly shown by the structure and character of the foundation, where those of the portico are fitted to those of the sekos. The existing remains, as now studied, permit the distinguishing of six constructional periods in the history of the sekos, as follows: 1. The most archaic building, of which the walls, presumably of unburned brick, rested on foundations of polygonal masonry. 2. The building which may have been burned by the Persian invaders, about one-quarter the size of the latest development of the sekos, and presenting the same plan and proportional relations of cella and portico, with five interior rows of five columns each. 3. The probable provisional restoration of No. 2, having the same width of front, but lengthened at the rear, and with only three rows of at least six columns each. 4. The building of the cella in its present plan, by Ictinus, under the administration of Pericles, but with only five rows of interior columns and wide intercolumniations. 5. The addition of the front portico of fourteen marble columns,

toward the end of the IV cent. B.C., by Philon, who was also the architect of the great arsenal at the Piræus. 6. A later remodelling of the temple, probably, from the roughness of the work, under Roman auspices, when the supports of the interior assumed the form of seven rows of six columns. According to Vitruvius, the sekos, as built by Ictinus, was of Doric order; and Plutarch speaks of it as having two stories. There is a difference of opinion as to whether this sekos, or place for the celebration of the mysteries, was also the temple of Demeter; but it is probable that the temple proper was an independent building. The investigation made by the Society of Dilettanti afforded very incomplete and even incorrect results, owing to the occupation of the site by many houses. Almost all we know of the building has been gained since 1882, by the excavations of the Archæological Society of Athens.

There are also remains of a theatre, partly excavated in rock and partly formed of masonry. Some of the rows of seats are still recognizable.

EMPOLI, Italy.

CHIESA COLLEGIATA. The collegiate church of S. Andrea may almost be called a group of churches, so many and large are its chapels. It is a rebuilding, dating partly from the beginning of the XVII cent. and partly from the middle of the XVIII, of the original XI cent. basilica. The main church, about 66 ft. by 130 ft., has a flat-ceiled nave 42 ft. wide, without aisles, bordered by five square chapels on each side, behind round arches in the intervals of an order of Corinthian pilasters on high pedestals. The clerestory is faced with an order of Ionic pilasters with a wide segmental-arched window in each interval, and a broad arch spans each transept end, springing from the entablature of the first order. The small square choir is covered by a hemispherical dome, and separated from the crossing by an arched vestibule, flanked by shallow rectangular chapels. Very long vaulted chapels, ending in domes, flank both sides of the choir and the north end of the transept. A small Gothic campanile stands adjacent to the south wall of the church. Only the lower part of the façade shows the work of the old church, dating from 1093, according to its inscriptions. It has a blind arcade of five round arches on Corinthianesque half columns. The door occupies the middle arch; in the others circles, squares, and crosses are inlaid in black and white marble in Pisan fashion. Above is a corbel-table on lions' heads.

MADONNA DEL POZZO (of the Well), a small XVI cent. Renaissance church, remarkable for the picturesque disposition of its parts. It consists of a nave with plain walls, covered by a barrel-vault with four lunettes in each side enclosing small square windows, and opening by a single round arch into a lofty choir in the shape of a laterally elongated octagon in two stages, covered by a domed vault crowned by a small lantern. The nave is enclosed on three sides by a vaulted arcade with round arches supported on slender columns. The octagonal choir rises to nearly twice the height of the nave, and each face has a single blind arch springing from flat angle pilasters. The dome is disguised under a low octagonal roof. At the north side of the choir is a slender square campanile in three high stages, ending in an open belfry. The church appears to have been begun about 1522, but the dome and the exterior arcades are a century later, while the tower was added as late as 1795.

EPHESUS (Ayasalouk), Asia Minor.

BASILICA, 220 ft. long, near the Magnesian Gate and the Gymnasium. The street-front consisted of a hexastyle Ionic portico of white marble; the architrave had panelled soffits, and the frieze was convex. There were recesses along the sides of the building, apparently booths, and a curved apse.

Double Church. This is really two Byzantine churches, an earlier and a later, and practically of the same plan—a nave in three bays, ending in an eastern apse which is round within and masked outside by a straight wall, and flanked by thin chapel-like recesses on each side. The eastern church is wholly of stone, the western one of brick, and the two are telescoped together, as it were, so that the eastern wall of the brick church is the western wall of the stone one; the first being entered at the front and the second at the sides.

Great Gymnasium, an enormous structure close to the port. The ruins are of great extent; the central corridor, running from north to south, is over 500 ft. long. Four colossal granite columns of the ephebeum lie as they have fallen; four others may be seen in the Great Mosque of Ayasalouk. The remains are especially remarkable for the huge vaulted substructions of the platform on which the building rested; these consist of a great number of corridors crossing one another at right angles, and were rendered necessary by the fact that the site was originally part of the interior harbor.

Gymnasium, near the Magnesian Gate, on the north side of the city. It is an immense rectangular structure, surrounded by a cryptoporticus full of exedræ, decorated on the south side by a screen with marble figures of Persians nearly 11 ft. high. Within the south portico is an open palæstra, 236 ft. by 65 ft., and within that are an *ephebeum*, or exercising-court, 86 ft. by 46 ft., with chambers on each side of it, and thermæ or baths. On the north side is a *sphæristerium*, or court for ball playing, 135 ft. by 30 ft.

Odeum, on the south slope of Mt. Pion or Prion, built probably in the first half of the II century. It is semicircular; the exterior diameter 153 ft., that of the orchestra 30 ft.; the width of the stage is 10 ft. The exterior wall of the cavea is built of large blocks of limestone, without mortar; the stage-structure is of white marble. In Wood's restoration, the cavea has a single precinction; the lower range of seats has fourteen tiers in five cunei, the upper range thirteen tiers in ten cunei. Back of the upper range there was a covered portico, supported by Corinthian columns with shafts of Egyptian syenite and capitals of marble. The stage wall had five doors, and was adorned with Corinthian columns of white marble.

The Prison of St. Paul, so-called on the faith of a very old tradition, is a massive tower about 50 ft. square, of Hellenic construction, on a hill which forms a part of the system of defense established by Lysimachos, in 290 B.C. The interior is divided into four rooms, all the doors having heads in the shape of pointed arches formed of horizontal courses corbelled out. The upper floors of the tower were not vaulted, but were formed of wood.

Prytaneum (or Curia?), on the east side of the Forum, near the Theatre. It is a very fine stone building, about 250 ft. square, with solid piers of masonry, well built of large blocks of marble. It is probably of the first century A.D.

The Stadium, north of the Great Theatre, was built probably in the time of Augustus. Its length east and west was 753 ft., its breadth 98½ ft. The south side rested on the solid rock of the hill, while the seats on the north side were raised upon vaulted substructions, which were continued around the semicircular or east end. Along its whole length was a double colonnade, connected with the terrace of the stadium by stairways about 50 ft. apart. The shafts of its columns were of gray granite, the other parts of white marble. The west end was adorned with an open columniated screen in two tiers. The seats, of white marble, have been used in the construction of a mosque. There were facilities for transforming the rounded end

of the stadium into an amphitheatre of the diameter of about 130 ft.

ROMAN TEMPLE, S. W. of the Great Theatre, near the Agora. It has been in great measure despoiled by the Turks, but in Chandler's time was a very beautiful ruin. He supposed it to have been either the temple erected to the god Julius by permission of Augustus, or (more probably) that dedicated to Claudius Cæsar on his apotheosis. It was Corinthian *in antis*, with four columns between the antæ; ground-plan about 130 ft. by 80 ft.: columns, base-diameter, 4½ ft., height, 46½ ft. The shafts, 39 ft. long, were monolithic. The entablature was richly sculptured; the frieze was of ogee profile.

The TEMPLE OF ARTEMIS (Diana), or Artemision, half a mile outside the gates of the old town, was several times rebuilt. The most famous building was begun in the VI cent. B.C.; the foundations were laid on a layer of charcoal and fleece of wool at the suggestion of Theodorus of Samos, to overcome the treacherous nature of the damp ground. It was finished about 460 B.C. and was burned by Herostratus in 356 B.C. The new temple was probably begun soon after, on the designs of Deinocrates. Alexander the Great offered to furnish the money if the Ephesians would put his name on the temple as the dedicator, but the people refused. It was plundered and burned by the Goths about 262 A.D., and was excavated in 1869–74 by Wood, who found remains under 22 ft. of soil, deposited by overflows of the river Caystros. The temple stood on a platform lying nearly east and west; in plan, measured on the lowest of its fourteen (?) steps, it was 418 ft. by 239 ft. It was Ionic, octastyle, dipteral, with twenty columns on each flank; the lower diameter of the columns was 6 ft., their height 55 ft. 9 in. The columns of the pronaos and opisthodomos had admirably sculptured drums, perhaps by Scopas, above their bases. The exterior columns had twenty-four flutes, the interior twenty-eight. Intercolumniations of front and rear were 28 ft. 8 in. in the centre, graduated to 19 ft. 4 in. at the ends; on the flanks it was 17 ft., but 19 ft. 4 in. at the ends. The frieze was sculptured with mythological subjects; the cyma decorated with a honeysuckle ornament, interrupted by lion-heads. The cella, about 70 ft. wide, consisted of a pronaos, with two columns *in antis*, the cella proper, a rear chamber, and an opisthodomos. In the interior was a double range of columns, the lower Ionic, the upper Corinthian. The statue and altar of the goddess, Diana of the Ephesians, were at the east end. The material of the temple was white marble from the quarries of the Koressos, five miles distant. The roof was covered with large white marble tiles. The temple was surrounded by a portico 25 ft. wide, at a distance of 30 ft. from the lowest step, and stood within a large enclosure or peribolos. A church was begun later within the walls of the cella, but was left unfinished.

The THEATRE on the west slope of Mt. Pion is mentioned in the Acts of the Apostles. The superstructure and sculptures are Roman, but the substructure is Greek. In plan it is greater than a semicircle; the longer axis is 495 ft., but the distance across the ends of the semicircle is, according to Wood, only 467 ft.; the diameter of the orchestra is 110 ft. (Leake makes the diameter 660 ft., and that of the orchestra, 240 ft.). The stage was nearly 22 ft. wide. In Wood's restoration the cavea is divided horizontally by two precinctions; in the lower range are fourteen tiers of seats in eleven cunei, in the middle range, twenty-two rows in eleven cunei, and in the upper, twenty-five tiers in twenty-two cunei. Above the seats was a gallery with a covered portico behind it. The estimated capacity of the theatre is twenty-four thousand five hundred spectators. The back wall of the stage was al-

most entirely of white marble, adorned with granite columns and a rich entablature of white marble in two tiers.

TOMB OF ST. LUKE, so-called, S. E. of the Odeum, excavated by J. T. Wood in 1864. It is probably of the end of the III or the beginning of the IV century. It stood in the middle of a quadrangle, 153 ft. square, paved with marble and surrounded by a colonnade. In Wood's restoration the tomb is circular, surmounted by a dome, and with a peristyle of sixteen Ionic columns on a high stylobate, supporting an ornate entablature. Diameter of the peristyle, 50 ft.; of the cella, 34 ft.; height about 47 ft.

Roman TRIUMPHAL ARCH, of a single opening with ornamental imposts, adjoining the Stadium at its west end. It is an impressive object in the landscape, but it is of late date, and is built entirely of marble blocks taken from earlier buildings.

EPIDAURUS, Argolis, Greece.

The HIERON, or Sanctuary of Asklepios (Æsculapius), about five miles west of the city, is still called Hieron. In ancient times it was one of the most frequented places of resort for invalids, the priests of the god being skilled in medicine. The temple became rich in gifts, and so famous that a deputation was sent from Rome 293 B.C. during a pestilence in that city, to secure one of its sacred serpents. The site of the sanctuary is shut in on two sides by steep hills and on the other two by a wall, still traceable in several places. On the north side the enclosure was formed by contiguous porticoes. The Temple of Asklepios stood near the centre of the enclosure, which contained also the so-called Tholos of Polycletus, the hospital or edifice provided to shelter the invalid votaries of the god, and many other buildings and temples.

HOSPITAL, a long portico beside the temple of Asklepios, in which the suppliants of the god spent the night, hoping that he would appear to them in their sleep and heal them. The building was a stoa or portico 238 ft. long and 32 ft. wide. It was divided into two wings by a cross partition in the middle, and a central row of Ionic columns extended through both wings. The front, toward the temple, was open, the roof resting upon an entablature supported by Ionic columns. In the interior were set up slabs, one of which survives, upon which were inscribed the miraculous cures effected by the god. In the S. E. angle of the building there exists still a well about 82 ft. deep, with an abundant supply of water.

ODEUM, of Roman construction, excavated in 1891 south of the Propylæa. It was built in part on and over an ancient Doric peristyle enclosure. The cavea retains nine tiers of seats, and has but one stairway, which divides it in the middle. The retaining walls (*analemmata*) of the wings are parallel to each other. The orchestra is paved with a mosaic in pebbles, and the stage remains raised about 3 ft. The old Doric peristyle appears to have belonged to a gymnasium of the best Hellenic time, upon the ruins of which the Odeum was built.

PROPYLÆA, probably of the old gymnasium over which the Roman Odeum was afterward built. In plan it resembles a small temple with two columns *in antis* facing the north, the place of the pronaos wall being occupied by two columns, also *in antis*. The south end is closed by a wall, which was probably added when the Odeum (*q. v.*) was built, at which time the propylæa seem to have been made into a temple, perhaps of Hygeia. A large open portico of six columns in front and four on the flanks forms a vestibule to the propylæa on the north; a ramp leads up to the wide central intercolumniation.

STADIUM, formed by an earthen embankment. It is very dilapidated, but there are indications of twenty-one rows of seats resting directly on the embankment. The

width is about 200 ft., width of arena, 78 ft.; traceable length 300 ft. to 400 ft. besides the semicircular termination.

The Temple of Artemis (Diana) within the peribolos was Doric, on a stylobate of three steps, prostyle, hexastyle, with a column on each side between the angle-column and the anta, 44 ft. 3½ in. by 31 ft. 6 in. It was built of Poros stone, except the marble pavement, and the cornice and roof-tiles of marble. There was a range of columns round the interior of the cella. The cornice was carved with dog-heads in place of the usual lion-heads.

The Temple of Asklepios (Æsculapius) contained a chryselephantine statue of the god, half the size of the colossal statue of Olympian Zeus at Athens. The remains of this temple have been identified and explored carefully by the Archæological Society of Athens. It was a Doric peripteros of six columns by eleven, 81 ft. long, and 43 ft. wide. Many fragments of sculpture from the pediments have been found, all of excellent workmanship. In the eastern pediment was represented a combat of Centaurs and Lapiths; in the western, a scene of uncertain subject, in which took part Amazons both mounted and on foot, male figures, and Nereids riding on hippocamps.

Theatre, just without the sacred peribolos of Asklepios. Pausanias tells us that it was designed by the great Polycletus, who flourished in the v cent. B.C., and that it was well worth seeing both for its size and for its beauty of arrangement and ornament. The cavea is excavated from the slope of a foothill of Mt. Kynortion, and faces west of north. It is in many respects the most perfect surviving example of a Hellenic theatre. The arc of the cavea is greater than a semicircle. Its diameter is about 415 ft., and its axis, from the centre of the circle of the orchestra to the exterior wall above the cavea, about 205 ft. It is divided into two zones by a *diazoma* or precinction; and presents an exceptional arrangement, in that the diazoma consists of two passages, one at a higher level than the other, the upper one scarcely 2 ft. broad. The lower zone of the cavea is divided into twelve *kerkides* or wedge-shaped divisions by thirteen *klimakes* or radial flights of steps. These klimakes are continued through the upper zone to the terrace 7 ft. ½ in. broad above the theatre. The upper zone is further subdivided by twelve intermediate klimakes into twenty-four kerkides. Access to the cavea was afforded, besides that from below through the orchestra, by doors in the wall enclosing the upper terrace and by stairways along the supporting-walls (*analemmata*) of the wings, leading to the diazoma. No remains of a portico above the cavea, as indicated by Vitruvius, exist either in this theatre or in any other of purely Greek arrangement. The upper zone contains twenty tiers of ordinary seats, the lower thirty-two. There are, moreover, three tiers of thrones or seats of honor—one tier on either side of the broader passage of the diazoma, and the third immediately encompassing the orchestra. The thrones differ from the ordinary seats in that they have backs, and are carved with mouldings. Thrones and seats are constructed of the white limestone of the neighborhood, the blocks being fastened together by iron clamps set in lead. The supporting-walls of the wings, and the surviving substructions of the stage, are built of tufa. The orchestra is about 85 ft. in diameter. It consists of two parts—a passage paved with stone before the base of the lower row of thrones, and the orchestra proper, which is a circle with a radius of 40 ft., extending toward the stage beyond the plan of the auditorium. The floor of the passage is 8 in. lower than that of the circle, and discharges through drains the rain-water falling in the cavea. The circle is curbed with stone; its surface is not paved, but is formed of a carefully laid bed of sand

and ashes (*konis*—hence the ancient name *konistra*). At the centre is embedded a cylindrical stone, pierced with a deep, round hole, in which was fixed the *thymele*, or altar of Dionysos, around which the chorus moved. The stage-structure was built in Roman times. The *hyposkenion* (proscenium) or wall forming the front of the stage toward the orchestra was built of white limestone, and ornamented with eighteen Ionic semi-columns of Attic design, and an Ionic entablature. The stage buildings and the approaches to the theatre were adorned with statues, many fragments of which have been found. In the passages (*parodoi*) at either extremity of the stage were double gateways, giving access to the orchestra and to the stage-buildings, and at the same time forming an architectural connection between the stage and the auditorium. The excavations of the Athenian Archæological Society since 1881 have shown the incorrectness of the accounts of this theatre given previously by Donaldson, Blouet, Wieseler, Canina, and others.

THOLOS, near the temple of Asklepios, and the upper end of the stadium. It was a circular building of white marble, designed by Polycletus the younger. The building resembled in plan such circular temples as the Philippeum at Olympia; it was probably built as a monumental shrine for the sacred fountain of Asklepios. The circular cella was surrounded by a range of Doric columns, and had an interior range which is of an early and interesting form of Corinthian. The pavement of the cella was supported upon elaborate foundations, of which three walls forming concentric circles constituted the main feature. The diameter of the tholos was 71 ft. All the remains of this building, particularly the fragments of the sculptured frieze, in refinement of design and of technical execution can be compared with the remains of the Erechtheum at Athens.

ERETRIA, Eubœa, Greece.

THEATRE. The cavea is supported by an artificial embankment, and has been only in part excavated, disclosing some of the seats and stairways of Poros stone in place. In plan it is a little over a semicircle. The diameter, taken at the highest part of the embankment, is 265 ft. 9 in., at the lowest tier of seats, 81 ft. 7 in. There are in the cavea eleven *cunei* or wedge-shaped divisions, between twelve flights of steps. There is evidence that there was a *diazoma*, or horizontal passage of communication. In front of the lowest seat was a drain lined with stone, the lining of the inner side forming the curb of the orchestra throughout the half-circle, the diameter of the orchestra, measured across the curb, being 66 ft. 6 in.: its surface was formed of beaten earth, or earth and cinders. In later times the cavea drain appears to have been covered over to form a platform for thrones of honor. The most remarkable feature of the orchestra is an underground passage, 6 ft. high and 3 ft. wide, extending from its centre to a point behind the prosceninm wall of the stage, formed of two courses of large blocks, the lower course upright, and the blocks of the upper course inclined so as to meet and roof in the passage. This passage evidently supplied the means for the actors to pass unseen from the stage-structure to the middle of the orchestra and there to appear amid the chorus, as in the case of apparitions from the lower world. Since this discovery at Eretria, similar dispositions have been recognized by the American School in the theatre of Sicyon, and by the German Institute in those of Magnesia and Tralles. The remains of the stage-structure are interesting, and show modifications of at least three epochs. First, there is the structure of the IV cent. B.C., a back wall with three doors, and on the flanks projecting wings, each with one door communicating with a series

of chambers behind them. Second, at a considerably later time, a new back wall was built, also with projecting side wings, and with a hall behind divided by a longitudinal range of columns. At the same time, the level of the orchestra seems to have been lowered, and to give access from behind to the orchestra an underground passage about 10 ft. high and 6½ ft. wide, roofed with a true vault, was carried from outside the hall to the front of the wall. The passage is contemporaneous with the wall, with which its masonry is bonded. At the orchestra end the passage was closed by a door, and steps lead down from it to the level of the orchestra. Third, a decorative front or proscenium, as at Sicyon, Epidaurus, etc., was erected between the two projecting wings. This, which is about 75 ft. long, was ornamented with twelve Doric semi-columns and two antæ, the intercolumniations being closed by slabs. The total height of the proscenium is estimated at about 11 ft. There was a double door in the middle, opening on the orchestra.

WALLS. The entire circuit, including the acropolis, is about two miles. The ramparts of the lower town are most complete on the east side; they consist of a foundation 8½ ft. thick, faced on each side with coursed masonry, and filled in with rammed earth. The upper surface of the foundation is horizontal, and the superstructure was of unburned brick, as at Mantineia. The line of the wall forms a series of obtuse angles, long straight stretches being avoided, and was strengthened by massive square towers at intervals of about 180 ft. At the S.E. two circular towers, about 23 ft. in diameter, were built tangent to the wall. The exterior wall of the acropolis is a little less than 7 ft. thick, the filling almost entirely of small stones instead of rammed earth, as in the lower tower, and the wall was of stone to its full height instead of having a superstructure of unburned brick. It was also strengthened with square towers, and notably by four large and massive gate-towers of fine masonry with a sharp-cut edge at the tower angles. These towers are additions, built either against or across the wall. One tower still rises to a height of nearly 16 ft.

ERYX. See *Monte San Giuliano*.

ESKI ADALIA. See *Side*.

ESKI-HISSAR. See *Stratoniceia*.

EUROMUS. See *Yakkli*.

EYUK, Cappadocia, Asia Minor.

HITTITE PALACE, like that of Boghaz Keui, and closely analogous to those of Nineveh. Its artificial terrace measures about 820 ft. to a side, and still rises to a height of about 40 ft. Its angles are oriented with the cardinal points. Its chief doorway, 11 ft. 2 in. wide, has on either side a rude sphinx sculptured in full face and perhaps somewhat Egyptian in character, replacing the Assyrian human-headed bulls. The walls of the vestibule are adorned with reliefs of similar character to those of Iasili Kaïa at Boghaz Keui. Among them is noteworthy a seated female figure with long robe, upturned shoes, hair in ringlets on her shoulders, elaborate necklace and bracelets, and holding in one hand a cup, in the other, apparently, a branch of flowers.

EZRA (Zora), Hauran, Syria.

The CATHEDRAL is almost the only one of the ancient churches of central Syria that is still used as a Christian church, retaining its old form. It is in plan a square of about 60 ft., the corners cut off to make an octagon and occupied by semicircular niches. Inside this an octagonal nave is built, leaving an aisle between. The inner octagon consists of eight piers, carrying arches that support a windowed octagonal drum, which bears a high, pointed dome of circular plan, united to the drum by successive courses of stones corbelled out over the angles. The eastern side opens into a choir of one rectangular bay, and an apse, round within and

hexagonal without. About the wall of the apse are built seats for the clergy. In three other faces are high arched openings, divided by transoms for square-headed doors, the western of which is flanked by two lesser doors of like form. The masonry is all very plain, of squared stone, except the dome, which is of rubble. Over the main door are sculptured Christian emblems, and an inscription that gives the date 515 A.D.

FÆSULÆ. See *Fiesole*.

FALERII. See *Sta. Maria de Fallerii*.

in the nave. At the bottom are three fine doorways, covered with traceried canopies. The apsidal end of the nave finishes in a rich crown of gables and pinnacles, and heavy flying buttresses spring over the aisles. Apparently the church was not roofed, and the vaulting, cemented on the outside, was the only covering, as in other churches of Cyprus. The English have lately undertaken to restore the church. (*See Fig. 62.*)

St. Sophia is a ruined church of some size, about 80 ft. by 150 ft., considerably



Fig. 62.—Famagusta, Cathedral.

FAMAGUSTA (Famagosta), Cyprus.

The Cathedral of St. Nicholas, now a mosque, was built under the Lusignan kings of Cyprus, and probably near the beginning of the XIV century. It is a large, three aisled Gothic church, nearly 200 ft. long and 100 ft. wide, without transept, and ending in three eastern apses. The vaulted nave and aisles are in seven bays, and three chapels which open out of the aisles have eastern apses. The handsome front, now somewhat dilapidated, has two great towers over the ends of the aisles, and between them a large traceried window

older than the cathedral, being transitional, and having its arched openings partly pointed and partly round. It has nave and aisles in five bays, and, as is usual here, three apses, which are round. Against its south side is an older and smaller church, more oriental in style, of two aisles each in four bays, alternately domed and vaulted. The main arches are pointed, the piers square and plain, the two apses semicircular within, but hardly projecting through the east wall.

FANO (anc. Fanum Fortunæ), Italy.

Triumphal Arch, erected in honor of

Augustus, probably during his reign. It spans the Flaminian Way, and still forms one of the gates of the city under the name of Porta Maggiore. The ground-plan measures 58 ft. by 16 ft.; the height to the top of the entablature is 38 ft. There are three archways; the middle one is 19½ ft. wide and 26½ ft. high, the side ones about 6 ft. wide and 14 ft. high. Constantine built above the entablature an attic of seven arches with eight Corinthian fluted columns between, parts of only two of which are standing. There are inscriptions on both entablature and attic. The material is ashlar of white marble.

FERENTINO (the Latian Ferentinum), Italy.

STA. MARIA MAGGIORE is a cruciform church, built after a Cistercian model during the first half of the XIII cent., and restored before its close. The length of the church is 127 ft.; its apse is square, and it originally had four square side-chapels. The style is early Cistercian Gothic, more advanced than Casamari. Its inner arches are all pointed, and its nave and aisles are covered with ribbed cross-vaults that have been remodelled. The piers are slenderer than at Casamari, and the pointed arches wider. The uninterrupted rise of the vaulting shafts, except for the banding rings, is an improvement on earlier Cistercian work: the foliage of the capitals is pure Gothic and strongly French. The nave is narrow and the transverse arches low and pointed, giving a domical character to the vaulting. There are three bays to the nave, one to the transept and one to the apse. The four piers at the intersection are finely grouped. Modern stucco-work has partially concealed the original details. The windows in the apse are advanced in style, while the façade is transitional. A plain octagonal domical tower covers the intersection. [A. L. F., Jr.]



Fig. 63 —Ferrara Castello Vecchio.

FERENTO (the Etrurian Ferentinum), Italy.

ANCIENT THEATRE, restored in imperial times. It stands in a plain on the brink of a precipice, overhanging a wooded ravine; the seats of its cavea were supported by a massive arcaded wall, which is still in great part standing. The plan is semicircular; the greater diameter is exactly 200 ft.; the depth of the stage is 33 ft. The cavea is very ruinous; no seats remain and part of the rear wall is gone. This wall, probably Roman, is of large uniform blocks of gray tufa, fitted without cement. The scena is held to be the best preserved of any theatre in Italy. It is built of large blocks of stone to the height of ten courses, upon which rests a mass of Roman brick-work. The stage wall has seven portals closed above with flat stone arches, all of admirable and massive masonry laid without cement. This wall, whose length is 136 ft., may be of Etruscan origin. The theatre, with its massive arches, forms in its abandonment a highly imposing ruin.

FERRARA, Italy.

CASTELLO VECCHIO, the Old Castle,

was built in 1385 as an addition to an older palace which has disappeared. It was the stronghold of the lords of Ferrara until their downfall. It is a square mass of building with a battering base, rising out of a surrounding moat, and approached by a drawbridge. The walls are crowned with bold machicolated cornices, and strong square angle towers rise high above the castle roofs. The interior contains a multitude of apartments, of which the most important were decorated with pictures by the best painters of Ferrara, which have now disappeared. (*See Fig. 63.*)

The CATHEDRAL, originally a late Romanesque church of the early part of the XII cent., with nave, aisles, double transept and choir, but undergoing various modifications and additions in the XIII and XIV cents., and in the XVII a complete internal rebuilding in the Renaissance style. The façade is striking, but is only a monumental screen, with no relation to the interior. Two square projecting piers, terminating in arcaded pinnacles, divide it into three nearly equal parts, each finishing at the same height in a low gable



Fig. 64.—Ferrara, Cathedral

with a pointed stepped arcade. The lower story of Lombard work is plain and bare but for three round-arched doorways. The central division is occupied by an imposing porch in two stages, the arch below springing from columns resting on the backs of figures sitting on lions, the doorway deeply recessed with a sculptured tympanum. Above is an open loggia with three pointed and traceried arches, carried on twisted columns with balustrade between. Within this loggia is a statue of the Virgin and Child. A rich sculptured frieze is carried round the porch above the arches under a sculptured gable. An arcade of small round arches crosses the front in line with the loggia, probably belonging to the original façade. They are grouped in threes by pointed enclosing arches, a later addition. Above is a second arcade of small pointed arches without enclosing arches. In the XIV

cent., a magnificent upper story was added, with an arcade of four broad pointed arches in each division, deeply recessed, with twin windows in each arch, and a profusion of columns in the jambs. Between the arcade and the gable in each division is a cusped rose window. This is one of the richest church fronts in Italy, and there is in it, perhaps, more of the character of the northern Gothic than can be found in any other Italian exterior; the deeply splayed jambs, the profusion of shafts, the extent to which in the upper portion the continuous openings have abolished the wall surface, conduce powerfully to this effect. At the same time with the addition of the upper stage of the front, the clerestory walls were increased in height by the addition of a continuous arcade of small arches, carried on square pilasters and with ogee archivolts. The church was begun about 1095 by Nicolo di Vico Ariolo (Ficarolo). The square brick Renaissance campanile in four stages was begun 1455 and finished 1491. The church is very large—nearly 370 ft. long—and has two transepts. The interior was remodelled in 1637 in barocco style, and its interest destroyed. (*See Fig. 64.*)

FIESOLE (anc. Faesulæ), Italy.

La Badia. The original monastery was founded about 1028, but was rebuilt, including the church, from the designs of Brunelleschi, about 1430. The small church has a very plain nave covered by a simple barrel-vault, enclosed by four round arches on each side springing from square piers without bases or capitals. The aisles are divided into square chapels, each lighted by a small rectangular window. The transept matches the nave, and the crossing, bounded by four high round arches springing from square Corinthian pilasters, is covered by a flat dome. The rectangular choir is as broad as the nave, and nearly as long, the total length of the church being about 150 ft. The interior is sparingly lighted by one round window in each end of each vault, and a few small slits in the walls of choir and transept ends. The exterior is of little interest, the walls being of rough stone without much design. The façade still retains part of the old work in black and white marbles.

Roman Baths, divided into three main halls, which lie side by side and are connected by doorways. The first and largest of these, on the north, preserves portions of a marble pavement and wall-encrustation; it, with the small rooms opening into its extremities, is recognized as the frigidarium. The middle hall and that to the south both have furnaces connected with them; the floor of the latter was raised over a hypocaustum on low piers of brick for the passage of the hot air, and is paved with marble.

S. Domenico, a xvi cent. Renaissance church, of which the architect is not known. Its plan comprises a small nave with three square chapels opening from it on each side by round arches faced with pilasters. Above is a clerestory lighted by large rectangular windows with pediment caps in the lunettes of the barrel-vault. There is no transept, but before the large oblong choir is a sort of vestibule or loggia of three vaulted bays with round arches over a Corinthian order. In the middle bay stands the high altar. On the front is a portico of the full breadth of the church, with five arches resting on slender Tuscan columns, and a groined ceiling. The portico dates from 1635. At the N. W. angle of the choir is a slender square campanile with a spire.

Ancient Theatre, on the slope of the hill behind the cathedral, facing north, and in remarkable preservation. There are six entrances in the exterior wall, and the cavea exhibits twenty tiers of seats divided into six *cunei* or wedge-shaped divisions by five radial flights of steps. The orchestra is clearly defined, as is the

stage, before which survives the trench intended to receive the falling curtain. The diameter is 220 ft., that of the orchestra is 69 ft. By some this theatre has been called Etruscan; but this theory is untenable. It is in fact one of the earliest known Roman theatres.

FLORENCE (Firenze), Italy.

The BADIA was originally the church of a monastery founded in 978, but was rebuilt in the XIII cent. by Arnolfo da Cambio, and again in 1625 from the designs of Matteo Segaloni. The church, buried in a mass of surrounding buildings, is approached by a long narrow corridor flanked by various chapels. Its plan is a Greek cross about 80 ft. in each direction, from the eastern arm of which opens a square choir terminating in a semicircular apse, while from the transept open three rectangular chapels in the angles of the cross, the fourth angle being occupied by the tower. The interior architecture is rich and well proportioned, though baroco in style; the walls are faced with two orders of pilasters, the lower Corinthian, the upper of fanciful design; the flat wooden ceiling is deeply panelled and decorated with carving and color. The campanile is the only portion of the church which recalls its early architecture. It is a slender octagonal tower, divided by string-courses into stages with coupled windows in each face—those of the two upper stages being pointed, crowned with a double pointed-arched corbel-table, under an octagonal spire with high gables at its base.

BAPTISTERY OF S. GIOVANNI (St. John), one of the most ancient buildings in Florence, its age not accurately known, but ascribed by different authorities to various dates from the V cent. to the XI., and, at least in its present form, more safely assigned to the later date. It is reputed to have been for centuries the cathedral church, and made a baptistery only upon the completion of the newer cathedral of Sta. Maria del Fiore. It is an octagon of about 83 ft. internal diameter, its interior disposition resembling that of the Pantheon at Rome. Each side, excepting that on which the high altar is placed, has a flat niche with a Corinthian order of red and gray marble columns in front, carrying a low entablature. Above these is an order of flat Composite pilasters, with coupled arches in the intervals, opening into a gallery, and an entablature, surmounted by a panelled attic, from which rises the high octagonal dome, with an elliptical outline, its crown 103 ft. above the pavement. The eye of the dome, originally open to the sky as in the Pantheon, was covered by the present lantern in 1150. The entire inner surface is covered with mosaics of various dates and styles, the earliest as old as 1225. Many of the figures have suffered from restorations. The square western recess in which the high altar stands was added in the beginning of the XIII cent.; it opens from the baptistery by a great arch springing from the entablature of the first order and rising to that of the second, and its barrel-vault is covered with a fine early mosaic. The pavement is a mosaic of black and white marble of an intricate and beautiful design. Of the exterior as first built we have no means of knowing. It was more or less reclothed in 1288–93 by Arnolfo da Lapo, the first architect of the Cathedral, with a facing of black and white marbles. There are three stages, in two of which each side of the octagon is divided into panels by pilasters in the first story, and by engaged columns in the second, the latter bearing round arches, with a projecting cornice above. Under the arch-heads are windows of classic design. The third story is an attic without openings. A low octagonal roof covers the building, with a small lantern at the apex, and there is no suggestion of the great dome within. The whole surface of the walls is banded and panelled with

black and white marbles in simple patterns. Two noble shafts of red porphyry, which stand on either side of the eastern entrance, were presented to Florence by the Pisans in 1117 in return for help rendered to their city in time of war. The three pairs of bronze doors closing the south, north, and east entrances are among the most splendid works of Italian art. Those of the south entrance were executed by Andrea Pisano, and were begun in 1330. The design has been attributed by Vasari to Giotto, and so high was the estimate of their beauty at that time that their completion was celebrated as a festival throughout Tuscany. But their fame was to be eclipsed by the doors of the other two entrances. These were only taken in hand in 1401, when a competition was set on foot, in which seven artists participated, among whom were Donatello, Brunelleschi, and Lorenzo Ghiberti. The work was given to Ghiberti, then only twenty years old, and the doors were finished in 1424. (*See Fig. 65.*)



Fig. 65.—Florence Baptistery.

BARGELLO. See *Palazzo del Podestà.*

The BIGALLO is a small loggia opposite the Baptistery, attributed to Brunelleschi, but probably built before his day as a portion of a hospital, and now forming the vestibule and oratory of La Misericordia. The round arches are about 15 ft. wide and nearly 20 ft. high, of extremely elegant design, with square panelled piers resting on sculptured pedestals, broad moulded archivolts and sculptured spandrels. Above the arches runs a broad frieze with pointed, cusped, and gabled niches, enclosing statues. The second story has pointed two-light windows high up under a broad projecting eaves-cornice, vigorously bracketed. The whole is a remarkable union of elegance and picturesqueness.

The CAMPANILE of the cathedral, commonly called Giotto's Tower, is the most admired example of Florentine decorative architecture. It is the product of Giotto's perfected genius, having been begun in 1334, not quite three years before his death, at which period it had reached perhaps one-third of its height. It stands detached from the S. W. angle of the cathedral. It is forty-five feet square at the base, with scarcely any diminution upwards, and its height of 275 ft. is divided into four stages, of which the first may be regarded as a base, without openings except the doorway, and subdivided at mid-height into a lower and upper base. The second and third stories have in each face two-light windows of exquisite beauty, with pointed and cusped openings over traceried balconies, divided and enclosed by delicate twisted shafts, surrounded by sculptured mouldings and marble inlay, and covered by a crocketed gable. The fourth or belfry stage has in each face a single high three-light window of similar character to those below. The angles of the tower are marked by octagonal buttresses, continued without change of out-

line or character from the ground to the summit. The various stages are separated by moulded and decorated strings with sculptured friezes, the bold cornice is corbelled on cusped pointed arches carried round the angle buttresses, with a narrow inlaid frieze above and a crowning balustrade. The wall-surfaces of white marble are crossed by horizontal bands of delicate inlay and sculpture, and are everywhere divided into vertical panels by lines of dark green serpentine, the panels and borders often adorned by inlaid geometrical patterns, and those of the sub-base by a series of bas-reliefs attributed to Giotto, illustrating the successive periods of human life and civilization. In the upper base the lower panels are occupied by a series of deep vaulted niches containing statues. The original design for the tower included a crowning spire rising 90 ft. above the present cornice. (*See Fig. 66.*)

Capella Pazzi. This chapel, one of the earliest works of the Renaissance, was hailed as a triumph of Brunelleschi, who built it in 1420. It opens from the larger cloister of the church of Sta. Croce, and is a simple rectangle, with one of its longer sides facing the cloister and covered by an arcaded porch, while a small, square choir opens from the opposite side. The central portion of the rectangle is covered by a low ribbed dome, lighted by lunettes, the ends by barrel-vaults, springing from the entablature of an order of Corinthian pilasters, which decorates the walls. The porch is an elegant composition in two stages, the first an open colonnade of six Corinthian columns, the middle opening much broader than the rest, and covered by an arch rising through the second story, which is elsewhere a flat, panelled wall divided by delicate coupled pilasters carrying a high entablature with decorated frieze. Above this is a light wooden loggia. The interior is beautifully decorated with reliefs by Luca della Robbia. The porch has a handsome barrel-vault, richly panelled, and a low dome on pendentives in the centre. The wall within the porch has engaged pilasters answering to the columns in front, a pedimented doorway in the middle, and round arched windows. The frieze of the order is decorated like that of the exterior. (*See Fig. 67.*)



Fig. 66.—Florence, Cathedral and Campanile.

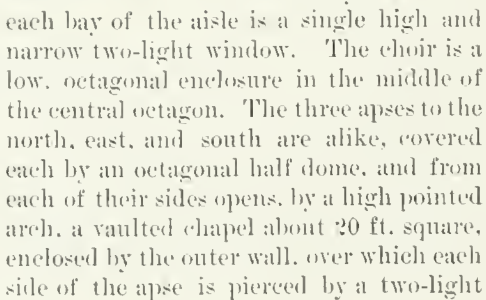
Cathedral or Duomo (Sta. Maria del Fiore). The cathedral of Florence, dedi-

cated to St. Mary of the Flower, is the most important and splendid work of Gothic architecture in Italy, as it is, with



Fig 67 — Florence, Cloister of Sta. Croce and Capella Pazzi

the exception of St. Peter's, the largest church. Its plan is one of extreme simplicity: a vast unbroken octagon, 135 ft. in diameter, from three of the cardinal sides of which open great apses included within five sides of an octagon, while from the fourth projects the great nave, 56 ft. wide, flanked by aisles nearly 30 ft. wide. The whole interior length is about 485 ft.; the breadth, including the lateral apses, 300 ft. The nave exhibits, in an exaggerated degree, the characteristic disposition of parts in the Gothic of Italy. Its length, about 250 ft., is divided into only four square bays by square piers with octagonal angle-shafts, which are joined by four enormous pointed arches of 56 ft. span, and from which spring also transverse arches across nave and aisles. The pilasters that face the piers are continued between the arches like vaulting-shafts, and the clumsy, foliated capitals are repeated on a level with the crown of the arches, above which is a continuous horizontal cornice, and a low projecting gallery, which runs round the church, and from behind which springs the four-part vault of the nave, rising to the height of 145 ft. above the pavement. The clerestory is insignificant, being wholly comprised within the tympanum of the vault, and pierced by a single round opening high up in each bay, while in each bay of the aisle is a single high and narrow two-light window. The choir is a low, octagonal enclosure in the middle of the central octagon. The three apses to the north, east, and south are alike, covered each by an octagonal half dome, and from each of their sides opens, by a high pointed arch, a vaulted chapel about 20 ft. square, enclosed by the outer wall, over which each side of the apse is pierced by a two-light



window similar to those of the aisles. Above the great arches of the apses the wall of the central octagon is carried up nearly 40 ft., forming a drum for the great dome 135 ft. in diameter, the full breadth of the church, preserving the octagonal outline of its base, and rising with its lantern to the height of nearly 390 ft. above the pavement. The lantern which crowns the dome is scarcely visible from within through the narrow circle at its base, and the frescoes from Vasari's designs, with which the surface of the dome was covered in 1572, are insufficiently lighted. The windows throughout the church are mostly filled with stained or painted glass, made in Germany during the first half of the xv cent. from the designs of Ghiberti and Donatello. This great interior is perhaps the most emphatic example in existence of the completeness with which a great architectural conception can be brought to naught in execution. There is probably no church in Europe of comparable dimensions of which the effect is so poor and bald. The immense size and height of the nave (the latter equal to that of Amiens) are neutralized by the scale upon which its several parts are designed; the distance at which its piers are set depriving it of that continuity which is so important an element in the grandeur both of the northern Gothic churches and of the basilicas. The effect which belongs of right to the three great apses which surround the dome is sacrificed by their isolation from each other, and the disposition of their chapels; and the majestic proportions of the great central octagon and its dome are rendered ineffective by the poverty of their treatment. Throughout the whole interior great surfaces of bare, flat wall, dull in color and unrelieved by important architectural features, meet the eye, and the whole effect is one of nakedness and gloom.

The exterior, although it is the work of various architects working through successive administrations for a hundred and fifty years, and although the interest of the various parts is by no means equal, yet preserves a substantial consistency throughout. The walls, veneered with a thin facing of white marble, are everywhere covered by a monotonous rectangular panelling formed by strips of dark-green serpentine. On the flanks of the church the interior division is indicated both on the aisle and clerestory walls by square buttresses, between which in each bay of the aisle wall is a slender two-light window, lavishly decorated with exquisite detail, of twisted shafts, jambs of marble inlay, high crocketed gables flanked by pinnacles and lifted far above the arch, the interval being filled with a marble inlay of geometrical patterns. The side doorways are decorated with even greater profusion of ornament. The aisle wall is terminated by a fine and decorative arched corbel-table and a pierced balustrade, above which the clerestory wall, whose flatness is scarcely relieved by the double series of oblong panels, is pierced by a single, plain round window in each bay. In the eastern half of the cathedral, the wall-surfaces are divided by two ranges of blind arches rising to the height of the aisle wall, within which the windows of the apses and of their chapels are of similar design to those of the aisles. Around a part of the octagon the angle buttresses are finished with capitals of more or less classic character, carrying an entablature, above which is an open arcaded gallery with an order of columns surmounted by a balustrade. The crowning lantern is a high octagon with pilasters at the angles, round arches between, and wide-projecting angle-buttresses pierced by arches and covered by scrolls. This portion of the church, with the three apses covered by octagonal domes, their angles reinforced by buttresses of great projection, and the vast central dome rising above all, has great variety and interest. The dome has

not all the effect which belongs to its size and height and superb outline; the drum is but a repetition of the flat clerestory wall lifted up a story with its feeble paneling and its unsightly round windows, and the junction of the drum with the dome itself is not sufficiently marked. But in judging this work the extreme difficulty of Brunelleschi's task must be remembered. The fact that it was absolutely without precedent makes his achievement extraordinary; and the wonder is, the mechanical difficulties being brilliantly overcome, not that the artistic result is faulty in detail, but that in spite of its faults the effect is so admirable and impressive as it is. The grouping of the dome and apses from N. E. or S. E. is of almost unexampled majesty.

Fig. 68.—Florence, Cathedral, East End.

The materials for the early history of the cathedral are scanty and conflicting. The rebuilding of the old cathedral of Sta. Reparata, which, dating from a period anterior to the VIII cent., had been the cathedral church since the early part of the XII, was resolved upon in 1294; and the work was begun in that year under the direction of Arnolfo da Lapo, who was architect of the Commune and was already engaged at Santa Croce; and who carried on the works until his death in 1310. An interval of twenty years then occurred during which the work appears to have languished. In 1334 Giotto was appointed to the charge of the cathedral, the town walls, and other works of the Commune. Under him the building of the cathedral was resumed with vigor, and the foundations of the campanile were begun within three months after his appointment. Giotto died in January, 1337, and another interval of inaction seems to have intervened. By the middle of the century it had come to be felt that the new cathedral, as planned by Arnolfo, was too small to comport with the growing dignity and wealth of the republic. A larger plan was determined on, which lengthened the nave and heightened the aisles, without, however, disturbing essentially the walls already built. Up to this time the old cathedral of Sta. Reparata was still standing within the walls of the new building. It was taken down in 1375. The work of enlargement was begun in 1357, under Francesco Talenti, under whom and his son Simone the building appears to have been continued with reasonable steadiness. In 1407, when the body of the church was practi-

cally complete, the question of covering the central octagon remained. The original design of Arnolfo appears to have included a dome for the central feature, but to have left its details undetermined. The difficulties to be met were enormous. The space to be covered was greater than any yet covered by a dome, except in the Pantheon at Rome, where the dome sat on a continuous circular wall built from the ground, and of no excessive height. After years of discussion and consultation, a competition was invited in 1418, in response to which fifteen models were presented. Among these, the only two which were seriously considered were those of Filippo Brunelleschi and Lorenzo Ghiberti. In 1420 they were appointed as joint masters of the work, and with them was associated Battista Antonio. Work was begun in August of the same year. From the first

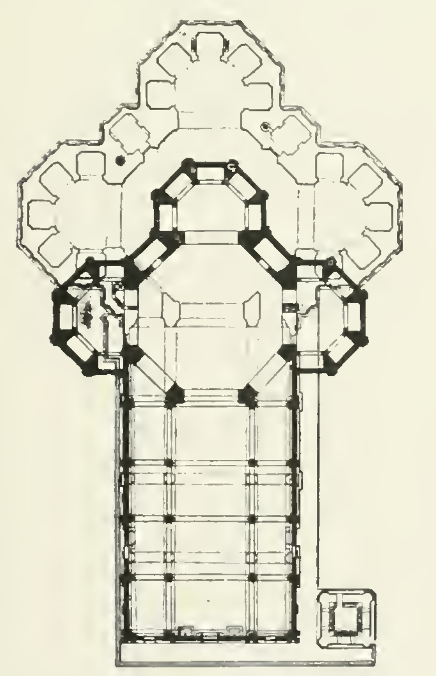


Fig. 69.—Florence, Cathedral, Plan.

The black plan shows the church as it is thought to have been designed by Arnolfo; the outline plan the enlargement of the eastern part to its present size by Talenti.

Brunelleschi's was the governing mind. His plan comprised two domes, an inner and an outer shell, separated by a space wide enough for passages and stairways, but joined at each angle of the octagon by a withe or rib of masonry, and by smaller intermediate ribs. The lower portion, perhaps a third in height, was to be of stonework, all above of brick. The work was to be accomplished without centering, and was to be bound together by two chains of iron and timber. The contemporary accounts of Brunelleschi's energy and inventive genius are most interesting. He had need of it all, for his work was beset with difficulties and discouragements, not the least among which were those arising out of his association with Ghiberti, who appears to have proved both jealous and incompetent, but who held his place until 1432, when the work was approaching completion. On the twelfth of June, 1434, it was so far finished that the cathedral was consecrated with ceremonies of great splendor by the pope, Eugenius V. In 1436 a new competition was instituted to determine upon a design for the lantern. This work also was given to Brunelleschi, but its execution was delayed for nine years, having been begun in 1445. Brunelleschi died in the following year, and the lantern was completed from his design in 1467. The façade of the cathedral waited long for completion. In the earlier stages of the work it appears to have been carried on along with the side walls, with which, in point of design, it doubtless corresponded. Of this façade, which is said to have been adorned with statues by Donatello and other masters, the design was long believed to have been by Giotto. More recent researches make this improbable, and seem to show that the façade was not begun at the period of his death in 1337. A few years after the cathedral was otherwise complete, a competition was set on foot looking toward the fin-

ishing of the façade, but the death of Lorenzo the Magnificent put a stop to the project, which was revived in 1515, when Sansovino made a design accompanied by a wooden model. This also came to nothing, and the unfinished front stood until 1588, when it was taken down by the Proveditore, Benedetto Uguccione, with the intention of replacing it by a front in the style of the Renaissance. This misfortune was happily averted, and the rough brick wall remained nearly three hundred years longer, until, in 1865, in response to an invitation for a competition one hundred designs were sent in, of which that of the Chevalier de Fabris was accepted. The work was not begun until 1875, and the new front was consecrated in 1887. It is in three compartments, the central one the highest, and crowned with a gable decorated with mosaics. It is divided and flanked by square projecting buttresses, and crowned by bold arcaded cornices. In each division is a pointed-arched, and gabled doorway, and a wheel-window enclosed in a square frame—the only windows in the façade. The whole front is extremely rich in decoration; the buttresses have each a vertical range of coupled, recessed panels, and a line of canopied niches enclosing statues crosses the front at the level of the aisle roofs. (*See Figs. 66, 68, 69.*)

GIOTTO'S TOWER. See *Campanile*.

The LAURENTIAN LIBRARY, attached to the church of S. Lorenzo, is approached from the cloister of that church through a lofty vestibule about 32 ft. square, of which the lower portion has an order of coupled engaged columns with niches between; the wall above being unfinished. A staircase of eccentric design in the middle of this vestibule leads to the library, a noble hall about 32 ft. wide, 145 ft. long, and 28 ft. high. The walls have an order of Doric pilasters, with panels between enclosing large square windows glazed with painted glass. The flat ceiling is panelled and decorated with rich and beautiful wood-carvings; the pavement is of red and white tiles with elaborate arabesque patterns. A range of benches and reading-desks, disposed on either side of a central aisle, is also carved with great richness. The work was begun by Michael Angelo in 1521 for Clement VII., and continued after his departure for Rome by Vasari and Ammanati. The collections, begun by Cosimo de' Medici in the middle of the XV cent., had for a hundred years a singular history, passing successively into the possession of the Dominican monks of San Marco, of Clement VII., of Leo X., and being removed to the Palazzo Vecchio, to Rome, and back to Florence, finding here at last a permanent home.

LOGGIA DEI LANZI, a triple-arched portico, occupying the greater portion of one side of the Piazza della Signoria, of great simplicity of design, and forming, from its great scale, the nobility of its lines, and the justness and beauty of its ornamentation, one of the most striking and admirable of architectural monuments. It is about 120 ft. by 50 ft. Its front consists of three majestic round arches, each some 32 ft. in span and 50 ft. high, springing from clustered piers of about 6 ft. diameter with high decorated bases surrounded by engaged pedestals bearing lions, and with high foliated caps. In the spandrels are sunken trefoils enclosing figures in high relief of six virtues, originally illuminated with color on a background of gold mosaic. Above the arches is a deep frieze bearing shields and a beautiful arcaded cornice of bold projection, crowned by a pierced parapet of quatrefoils in square panels. The whole height is about 80 ft. Toward the Uffizii the Loggia opens with a single arch like those of the front. The interior is covered by three groined vaults. It contains many works of sculpture, notably

the Perseus of Benvenuto Cellini, and the Judith of Donatello. The Loggia was commenced in 1374. Its design has been ascribed to Andrea Orcagna, and it was intended to form part of a comprehensive design for the improvement of the Piazza. (*See Fig. 70.*)

The MERCATO NUOVO, or new market, is a rectangular open loggia, standing detached in a public square, about 95 ft. long and 60 ft. broad, with four round arches on each long side and three on each end, and divided into twelve domed bays by cross arches which spring from Corinthian columns. The angles of the building are strengthened by massive square piers carried to the cornice, and bearing on each outer face a semicircular niche surmounted by a pedimented cap, while the columns at the ends are needlessly supported by lighter piers. The elevations are crowned by a continuous entablature with a very broad unadorned frieze. The market was built in 1547 for Cosimo I., from the designs of Bernardo Tasso, and remains to this day the centre of the trade in various kinds of straw goods. The architecture is simple and very elegant.

LA MISERICORDIA. See *Bigallo*.

OR SAN MICHELE (from Horreum Sancti Michaelis, it is thought), an interesting example of Florentine Gothic, built by order of the Signory in 1284, as a grain market, from the designs of Arnolfo da Lapo, and after suffering from two conflagrations, rebuilt in its present form between the years 1336 and 1378. It is a rectangular building, 106 ft. long and 65 ft. wide, in three stories, of which the lowest was originally an open loggia of great round arches, springing from plain square stone piers, divided into six square bays, covered each with four-part vaulting. In 1337 the lower story was enclosed, and the interior transformed into a church; the arches were filled with three-light windows with traceried heads, divided by shafts, and glazed with good painted glass. The sec-



Fig. 70.—Florence, Loggia dei Lanzi.

ond and third stories are alike, except in height, each having two-light pointed and cusped windows with slender shafts and jamb-mouldings continued round a pointed bearing-arch, with a simple label. The front is finished by a finely developed arched corbel-table, the arches large and cusped, the corbels thin and boldly projecting, above which is a balustrade with square panels carved with tracery. The most remarkable feature of the building is the decoration of the piers of the first story, which bear on their faces niches enclosing statues, given by the twelve guilds of Florence and including works by Donatello, Ghiberti, John of Bologna, and other masters that are among the noblest examples of Italian sculpture. The niches, a striking illustration of the exquisite ornament of which this age was capable, are of various design, though of the same character, having pointed and cusped arches carried on slender shafts, with straight or ogee pinnacled gables, and decorated in every part with delicate sculpture and marble inlay. The interior of the church contains a remarkable tabernacle of white marble, by Orcagna, built from the offerings made during the great plague of the XIV cent., which is a wonder of minute and exquisite decoration in sculpture and mosaic. The upper stories of the building retained their original use as a warehouse for the storage of grain as late as 1569, when Cosmo I. made them a depository for the national archives, which they still remain.

OSPEDALE DEGLI INNOCENTI, the Hospital of the Innocents, or foundling hospital, was founded in 1421, and the building was begun from the designs of Brunelleschi; but he being called away from Florence by his engagements in connection with the wars of the time, the work was carried out by his pupil, Francesco della Luna. The building has a long façade on the Piazza dell' Annunziata, in two stories, of which the first is an open vaulted arcade of broad round arches on Corinthian columns, the spandrels bearing roundels containing each the figure in majolica of an infant in swaddling-clothes, by Luca della Robbia. A continuous belt over the arcade forms the base of the low second story, which has over each arch a square window with moulded architraves and pedimented cap. The interior court is of similar architecture, surrounded by a vaulted arcade, over which is a second story with plain square windows, the wall-surfaces of white marble being laid off in square and circular panels by stripes of dark color imitating various devices in inlay.

PALAZZO BARTOLINI, a small Renaissance palace built about 1520 by Baccio d'Agnolo. It has a small façade in three stories, with a square doorway in the middle, enclosed in a small portico of two Doric columns with entablature and pediment. On each side the doorway is a single square pedimented window with a smaller opening below it. The doorway is approached by five steps, and the base of the building is brought forward to form a continuous bench across the front. The windows of the upper stories, each divided into two lights by a curious couple of superposed columns, all carry pediments alternately round and triangular, borne on pilasters, and are flanked in the second story by round-arched niches. The lines of the window entablatures are continued across the front to the angle piers of rustic work; the stories are separated by entablatures with decorated friezes, and the front is finished by a bold and somewhat exaggerated cornicione. This palace is historically noted as the first Renaissance example of a classic order with a pediment enclosing a door or window.

PALAZZO GIUGNI, a Renaissance palace built in the last quarter of the XV cent. from the designs of Ammanati. Its plan is nearly square, with a façade on the

street and another on the garden, each about 90 ft. long in three stories with a central doorway and two windows on each side of it. The garden front has in the middle of its third story an open triple-arched loggia of Venetian character, the arches springing from coupled columns, with windows and door ungracefully distributed about. There is an interior court about 32 ft. square with three arches on each side opening into vaulted loggias, that on one side forming the entrance vestibule from the garden.

Palazzo Gondi, an early Renaissance palace, built in 1481, from the designs of Giuliano di S. Gallo. It has a fine and characteristic façade, which seems, however, to be but a portion of what was originally intended. It is in three lofty stories, the first of bold rustic work, the second light rusticated, the third plain; the whole height being about 80 ft. The openings are plain round arches bordered by continuous mouldings, the archivolts bonded in with the rustic work. In the first story of the façade three door-ways are unsymmetrically placed, with square windows between; the windows above are arched, seven in each story. The front is crowned by a simple cornicione with square modillion-blocks and dentils. The palace encloses an interior court about 17 ft. by 30 ft., with a fountain in the middle, and a beautiful surrounding open arcade with Corinthian columns, one side of which is occupied by a fine decorated staircase. The palace was restored in 1874.

Palazzo Guadagni, a large palace presumed to date from the middle of the xv cent. and attributed to Cronaca. It has two façades in four well-marked stages, the lowest a plain wall of stone with a row of square windows, its angles marked by rustic piers of slight projection, the centre of the principal front by a simple round-arched doorway, while the base is brought forward so as to form a continuous bench on both fronts. The second and third stories have ranges of round-arched windows. All the openings are framed in rustic work, the arches being of the peculiar Florentine type, round in the soffit and pointed at the back, but in this case slightly ogeed. The distinctive decoration is a band of rich and delicate sgraffito work at the top of the second and third stories. The fourth story is an open loggia with light columns of composite design over the piers below, and a broad eaves-cornice of great projection. The metal work of the exterior, as the angle-lantern, the torch-holders, the door knockers, etc., is of great elegance. (*See Fig. 71.*)



Fig 71 —Florence, Palazzo Guadagni.

Palazzo Larderel, a small Renaissance palace of much purity and elegance of design, built about 1560 from the

designs of Giovanni Antonio Dosio, of Gemignano. Its three-storied façade has a square doorway enclosed between engaged Doric columns carrying entablature and pediment and flanked by two windows of similar design, resting on broad sills supported by consoles. The two upper stories have each three square windows with simple pilasters carrying entablature and pediment, of which the lines are carried across the front. The angles of the building are marked by pilasters of rustic work carrying light entablatures which cross the front under the windows. At the top is a bold modillion-cornice.

The Palazzo Non Finito, so called from its having been left unfinished, is a conspicuous palace begun in 1592 from the designs of Buontalenti, and carried on under successive architects. Its façade is in three stories, of which the first only, in a barocco style, was the work of Buontalenti, the front having been finished under Scamozzi. It has a fine and spacious court of unusual design by Luigi Cigoli, measuring about 34 ft. by 70 ft., surrounded on the first story by an open vaulted arcade whose great arches, springing from the entablature of an order of coupled Roman Doric columns, alternate with square openings. The wall of the upper stories is divided by flat vertical strips into panels enclosing windows of various forms.

Palazzo Pandolfini. The design of this palace, built about 1520 for the bishop of Troja, Gianozzo Pandolfini, is attributed to Raphael, but the work was carried out after his death by Giovanni Francesco di Sangallo. Its façade is of extreme elegance, and marks the definite abandonment of the severer style of the older Florentine palaces. It is about 165 ft. in length, and has the appearance of having been left incomplete; the main mass being flanked instead of divided by a great central doorway, a simple round arch enclosed in vigorous rustic stonework. It has two stories of windows, crowned by pediments alternately triangular and segmental, those of the upper story being borne by engaged Ionic columns standing on a balustraded stylobate. The lines of the entablatures of the second-story windows cross the front and the piers are panelled. The walls of the building are of smooth stucco, its angles emphasized by rustic quoins, and the front is crowned by a fine and strong cornice with modillions and dentils, and with a broad frieze bearing an inscription proclaiming the name and office of the owner. To the right of the central doorway only the first story of this composition is carried out.

Palazzo Pitti, the largest and in some respect the finest of the Florentine palaces and one of the most striking examples of the XV cent. domestic architecture. It was begun in about 1440 from the designs of Brunelleschi, for Luca Pitti, the chief of the faction opposed to the rule of the Medici. It has a façade something like 600 ft. long, a mass of cyclopean rock-faced masonry, its separate stones of enormous size, and all its parts of corresponding scale. The design is of the severest simplicity, the great front is unbroken by a single vertical division, but while the greater part of it has only two stories, the centre is carried a story higher. The three stories have each a height of nearly 40 ft.; the walls are pierced by a series of round arches in each story, about 12 ft. wide. In the lower story there are half as many as above; they enclose pedimented windows on sills supported by consoles. The arches of the two upper stories enclose plain square-headed windows with round holes in the tympana. All are arched with voussoirs of great height, whose extrados forms a pointed arch. The stories are separated by heavy moulded string-courses, with a balustrade above. The cornice is but a repetition of these, and the absence of an adequate main cor-

nice is the one serious defect of this noble façade. From each extremity of the front a broad terrace advances at right angles, which is an open-arched loggia corresponding in character with the main building. Of this façade only the central portion was built by Brunelleschi, the palace remaining unfinished for a hundred years after the fall of its original owner, and passing into the hands of Cosimo I., who toward the end of the XVI cent. built the great interior court from the designs of Ammanati, enclosed on three sides and open on the fourth side toward the gardens. The three elevations are in three stories of vigorous rustic work, each faced with an order of rustic columns, Doric, Ionic, and Corinthian respectively, the first enclosing the open arches of a vaulted arcade, the intervals of the second and third filled with windows alternately square-headed and arched. The upper entablature is treated as a cornicecione. The interior of the palace has many sumptuous apartments with columns of verd-antique supporting vaulted ceilings decorated in stucco and painted by Pietro da Cortona and other masters, with niches enclosing statues and rich pavements of colored marbles. The finest of these are now occupied by the magnificent collection of pictures known as the Pitti Gallery. (*See Fig. 72.*)



Fig 72.—Florence, Palazzo Pitti, Rear Corner.

THE PALAZZO DEL PODESTÀ, or BARGELLO, was the residence of the chief magistrate of the Republic. It was begun in 1250 by Lapo, a German, continued by F. Sisto and Ristoro di Campi, and substantially rebuilt a century later. It covers an area about 110 ft. by 200 ft. The exterior is of irregular architecture, the walls of strong, rough stone-work, mainly in three stages, but of unequal heights. The lower stage has plain arched doorways and small windows high in the wall. The second is the *piano nobile*, with broad, two-light pointed and cusped windows with mullion shafts and round or pointed bearing-arches. The third story is of various heights, with windows of various design ; the walls finish with a strong arched corbel-table and square battlements. A slender campanile rises from the angle, about 18 ft. square and 170 ft. high, with tall single round-arched windows in the belfry stage and a battlemented head. The interior contains a fine and extremely interesting court, an oblique quadrangle of about 65 ft., with a three-arched vaulted loggia on three sides, with round arches on octagonal piers with foliated caps, above which is an open vaulted gallery with six arches of the same character as those below. The third-story wall is flat, lighted by fine broad-pointed arched cusped windows with angle shafts. A picturesque open staircase rises from the



Fig. 73.—Florence, Pal. del Podestà (Bargello), Loggia.

court to the second-story gallery, with a square gateway on a landing at mid-height. The interior, containing some noble apartments, notably the great vaulted hall about 52 ft. by 85 ft. and nearly 60 ft. high, has been lately restored with great thoroughness and good judgment, and contains the National Museum, an extensive and admirable collection of objects illustrating the history and art of Florence. (*See Fig. 73.*)

PALAZZO RICCARDI, one of the largest and most imposing of the early Florentine palaces; begun in 1430 for Cosimo de' Medici from the designs of Michelozzi. It has three stories, of the height respectively of 18 ft., 22 ft., and 33 ft. Its principal façade is about 230 ft. long and 80 ft. high, unbroken by any vertical division; the first story of vigorous rock-faced stone-work, the second of smooth rustic masonry, and the third of plain ashlar. The first story shows five broad, simple, round-arched recesses, widely spaced, and alternately occupied by doorways and square-headed windows, said to have been designed by Michael Angelo, with broad projecting sills supported on consoles and bold pedimented caps. The second and third stories have ranges of two-light windows with arched openings separated by a column and covered by round bearing-arches of the Florentine crescent shape over continuous moulded archivolts. The stories are divided by moulded string-courses and the front is crowned by a vigorous and admirably designed cornicione. The palace encloses a small interior court about 38 ft. square, with an open vaulted arcade on the first story, the second composed of two-light windows like those of the front, and the third of a very light open loggia, its roof carried on thin Composite columns. A broad frieze over the first story arcades contains medallions with bas-reliefs by Donatello. The interior contains a great gallery painted by Luca



Fig. 74.—Florence, Pal. Riccardi.

Giordano, and a chapel with frescoes by Benozzo Gozolli. The palace is now used for government offices. (*See Fig. 74.*)

Palazzo Rucellai, an early Renaissance palace, built about 1450 and currently ascribed to Leon Battista Alberti. It has an unfinished façade about 75 ft. long in three stories of rustic masonry, faced by three orders of flat pilasters—the first ornamented Tuscan, the second composite, the upper Corinthian. There are seven bays, and the beginning of an eighth. In the street story two are occupied by rather low square-headed doorways with broad architrave and horizontal cap, above which in each bay is a small square window. In the second and third stories are two-light windows under broad round arches. The entablatures are carried unbroken across the whole front and their friezes are decorated with arabesques in relief. The upper entablature, making the cornice of the façade, is extremely heavy. The design of the whole is delicate, and the relief very slight. There is some ground for attributing the design to Rossellino, whose work at Pienza it much resembles.

Palazzo Strozzi, perhaps the finest and most consistent example of the distinctive Florentine palace architecture of the XV century. It was begun in 1489 for Fillippo Strozzi, by Benedetto da Majano, and finished by Simone dal Pollajuolo, called Il Cronaca, to whom the architecture of the court is due. Its plan is a rectangle of 129 ft. by 174 ft.; with fronts, substantially alike in design, on three streets, each with a simple round-arched entrance in the middle, from which a passage leads to the centre of an interior court. The walls are entirely of plain rustic stone-work of extreme boldness, and in three stories measuring respectively 26 ft., 30 ft., and 35 ft., the whole height of the wall being about 104 ft. The upper story is internally divided into two, the upper being lighted from the court. The windows of the street story are small square openings set high in the wall: those of the two upper stories are alike, being two-light windows with round, arched openings separated by columns under a round bearing-arch, the voussoirs increasing in depth toward the centre. Thin dentil-cornices divide the stories. The finely profiled classic cornicione with its broad undecorated frieze is complete only on one façade. A stone bench runs round the base of the entire palace. The great iron lanterns or cressets at the angles of the façades are characteristic and excellent examples of mediæval metal-work. The interior court, about 36 ft. by 58 ft., is surrounded on the first story by a vaulted corridor with an open arcade of round arches with moulded archivolts, springing directly from Corinthian columns. The second story is likewise a round-arched arcade, with broad flat pilasters resting on pedestals, and enclosing square windows with moulded architraves. The mouldings of the pilaster capitals are continued across the arches and the arch-head is pierced with a single circular opening. A full entablature encircles the court above each arcade. The third story is an open loggia with a sloping roof supported on light Corinthian columns standing on a balustrade.

Palazzo degli Uffizi, an imposing group of buildings, begun by Vasari in 1560, and finished, after his death, by Buontalenti, for the accommodation of the various administrative offices of the government, but best known in later days as the home of one of the most extensive and admirable collections of pictures in existence. The buildings consist of two narrow wings, enclosing a court about 450 ft. long and nearly 60 ft. broad, open toward the Piazza della Signoria, and closed toward the Arno by a cross building whose first story is a triumphal arch. The buildings are four stories in height, of which the first is an open vaulted corridor

about 20 ft. wide, with an order of Doric columns divided into groups of two by broad flat pilasters, which in the first story bear on their faces niches containing statues of famous Florentines. The windows above are grouped to correspond. Above the colonnade is a mezzanine with plain square windows with flat consoles between supporting an entablature; then a *piano nobile*, with long windows with balcony and pediment, and lastly a high upper story, once an open loggia, with light columns answering to those below, now closed by glazed frames which light the corridors of the picture galleries. A thin sloping eaves-cornice of nearly 7 ft. projection finishes the composition.

Palazzo Uguccione, a small Renaissance building dating from about 1550, with an unfinished façade of unusual elegance, of which the design has been commonly attributed to Raphael, by a few to Palladio, but which later authorities believe to have been by Mariotto di Zanoli-Folfi. The façade, about 54 ft. broad, is in three stories, the first composed of three arches of strong rustic masonry on massive square piers, and crowned by a balustrade. The second and third stories are each faced with an order of coupled columns, Ionic and Corinthian respectively, on pedestals, in the intervals of which are long rectangular windows with plain architraves and pedimented caps. The masonry ends with the architrave of the upper order and the front is covered by a broad projecting eaves-cornice. Over the middle arch of the lower story was a bronze bust of Francis I. by John of Bologna.

Palazzo Vecchio, the old palace of the Signory, a striking and magnificent example of the half civil, half military architecture of mediaeval Italy. The original building was begun in 1298 under Arnolfo da Lapo, continued into the next century and finished by Taddeo Gaddi. Toward the end of the XIV cent. it was enlarged to the eastward to more than double its original size, and about 1446 it underwent important changes, mainly affecting the interior, under Michelozzo Michelozzi. The completed palace covers an area about 140 ft. by 200 ft. Its façade toward the great square is of strong stone masonry, in four well-marked stages, of which the first three are respectively of the heights of 37 ft., 33 ft., and 23 ft. The lowest stage is a basement, without openings, except a single plain round-arched doorway and four small round-headed windows. The second and third stories are substantially alike, each having a range of broad two-light windows, with pointed and cusped openings separated by a column, and covered by a round bearing-arch, of which the high voussoirs have a pointed extrados. Over the second story is a mezzanine with small windows. The wall of the fourth stage, about 26 ft. high, is projected forward with a range of machicolations of extraordinary boldness, the arches being nearly 6 ft. broad and 12 ft. high, carried on straight corbels, whose projection from the wall is near 6 ft. Above these the wall of the fourth story is pierced with a range of thirteen plain round-arched windows, and the wall ends in high square battlements. The campanile, measuring 26 ft. on the face and about 18 ft. in depth, is a marvel of bold construction, its front wall being a continuation of the projecting fourth-story wall of the façade, and its head being crowned with machicolations upon nearly the same scale with those below, the wall above terminating in forked battlements, within which rises an open belfry, with single round arches on massive round piers, with high foliated capitals. Above the arches the wall ends in an arched corbel-table with forked battlements above and a pyramidal roof. The tower is about 280 ft. high, exclusive of the roof. The entrance from the Piazza leads directly to a fine court, an irregular quadrangle of about 40 ft. across, surrounded by a noble loggia, its bold round

arches springing from columns which at the angles are octagonal. The shafts are decorated with arabesques in relief, the work of Michelozzi in the XV cent., and the walls of the loggia are covered with large frescoes representing the cities with which Florence was connected at that period, and its vaults with decorations in the manner of the disinterred Roman palaces. The walls of the court above the arcade are two stages in height with fine two-light windows under round bearing-arches, and various smaller openings. Beyond the court a fine double staircase leads to the upper stories, where are many apartments of great size and splendor, notably the great hall of the council on the second story, about 85 ft. by 170 ft., with a magnificent panelled and decorated ceiling, which, as well as the walls, is covered with frescoes by Vasari dating from 1530. The Sala dei Dugento, or Hall of the Two Hundred, has also a remarkable panelled ceiling. (*See Fig. 75.*)

SS. ANGELI, an unfinished Renaissance church of which the exact date cannot now be ascertained, but belonging to the first half of the XV century. It was begun from the designs of Brunelleschi, and the work was suspended when the walls had reached the height of about 20 ft. The building is interesting from the elegance of its plan, a sixteen-sided polygon of a diameter of about 96 ft. with a central octagonal space 51 ft. in diameter, from which open eight square vaulted chapels, with semicircular niches in their abutting ends. On the exterior every alternate side had also a semicircular niche in the thickness of the partition wall between the chapels.

STA. ANNUNZIATA, originally a Gothic church, founded in 1250, but greatly altered and modernized in the XV cent. by Leon Battista Alberti. Across the front of the church is an open loggia of light arcades on composite columns carrying blocks of entablature. This opens by a central door into a large atrium or forecourt, surrounded by vaulted arcades, originally open but now closed by glass sashes for the better protection of the admirable frescoes by Andrea del Sarto and other masters. The interior consists of a nave about 48 ft. wide, covered by a flat pan-



Fig. 75.—Florence, Pal Vecchio.

elled ceiling decorated with gold and color, without aisles, but with a row of rectangular chapels opening from it by semicircular arches on each side, in the intervals of an order of pilasters, and rectangular windows in the wall above. The nave opens into a circular choir about 75 ft. in diameter, surrounded by semicircular niches and covered by a dome raised on a tambour lighted by eight windows, and decorated with frescoes by Daniele da Volterra. A small square chapel opens from the rear of the choir,

which contains the tomb of John of Bologna. In the choir are many sculptures and paintings by famous masters. On the north side of the church is a square cloister surrounded by vaulted arcades on Corinthian columns.

SS. APOSTOLI, an ancient church of uncertain date, but known to be anterior to the XI cent., and said to have been founded early in the IX by Charlemagne. It is a small basilica, about 90 ft. long and 53 ft. wide; the nave, about 20 ft. wide, ending in a semicircular tribune, and separated from the aisles by seven round arches on each side, springing from Corinthian columns of serpentine, above which is a clerestory with square windows, and a round barrel-vault. The aisles are vaulted and terminate in square niches, and the aisle walls are pierced by arches corresponding to those of the nave, and opening into chapels. The front is painted, and has three doorways. The church is said by Vasari to have served Brunelleschi as a model for San Lorenzo.

STA. CROCE, after the cathedral the largest and most famous of all the Florentine churches, was built for the Franciscans at the end of the XIII cent., by Arnolfo da Lapo, who at the same time was architect of the cathedral. It is a Gothic cruciform church of enormous size, whose length is variously given from 350 ft. to 490 ft. It has a great nave 60 ft. wide, flanked by aisles 25 ft. wide, from which it is separated by a range of seven high pointed arches on each side, springing from octagonal piers with plinths and foliated capitals from which flat pilasters rise through the clerestory to stone corbels bearing the tie-beams of the bare open-framed roof. A light iron balcony resting on corbels runs at the base of the clerestory, whose wall is pierced with a plain two-light pointed window in each bay. From each nave pier a pointed arch spans the aisle, dividing it into bays, each covered by a low gable roof at right angles to the wall. In each bay is a two-light window similar to those of the clerestory. The transept is short and narrow, and the nave arcades are carried across it with a single higher pointed arch on each side, over which the gallery jumps awkwardly. From the east wall of the transept opens in the centre, by a high pointed arch, the short choir, covered by a groined vault, and ending in an octagonal apse with three windows. The choir is flanked by five small square vaulted chapels on each side, each opening from the transept by a low pointed arch. The architecture of the church is without interest or merit, the interior is cold and bare notwithstanding that the windows are for the most part glazed with good painted glass, notably the great round window of the front. The interest of the church is wholly in its associations with the great Florentines who are buried here, Michael Angelo, Galileo, Macchiavelli, and others, and in the frescoes of Giotto, and other great painters in the Peruzzi and Bardi and oth-



Fig 76.—Florence, Sta. Croce.

BAALBEK TEMPLE OF JUPITER, NORTH FRONT







er chapels. On the exterior wall of each aisle is a vaulted open arcade of round arches, that on the south making one side of the great cloister 130 ft. square, connecting the church with its conventual buildings. From one side of the cloister opens the Cappella Pazzi (*q. v.*). The façade of the church was left unfinished until 1863. It is of white marble, divided into upright rectangular panels by lines of black marble. It is in three compartments, corresponding to the nave and aisles, each covered by a gable and flanked by buttresses terminating in pinnacles. A rather thin arched corbel-table crosses the whole front at the level of the aisle cornices, and a similar one follows the rake of the central gable. In each division is a fine pointed arched doorway, the tympanum filled with carving, surmounted by a crocketed gable and flanked by pinnacles. The original round window occupies the centre of the upper stage. The slender square campanile with high pointed and gabled belfry arches and spire above was finished in 1865. (*See Figs. 67, 76.*)

S. Felice, a singular small Renaissance Dominican church, ascribed in its present form to Michelozzo in 1457, but existing from a much older period. It is a long rectangle, measuring about 50 ft. in width and nearly 200 ft. in length, without aisles or transept, covered by an elliptical barrel-vault. The western half is divided in height by a nuns' gallery supported on two lines of Tuscan columns carrying a groined vaulting. From the east end projects a square choir flanked by a small square chapel on each side. The simple façade has a central doorway under an order of Corinthian pilasters and a semicircular pediment, and is itself covered by a low pediment.

S. Francesco al Monte, a xv cent. Renaissance church, of which the design is attributed to Cronaca. A bald ill-proportioned front covers the broad nave and narrow aisles of a rectangle about 165 ft. long and 76 ft. wide. The nave is about 126 ft. long and 44 ft. wide, the aisles divided into a series of square chapels opening behind Roman arcades in the intervals of an order of Doric pilasters, carrying a continuous entablature. Above is a clerestory faced with similar pilasters between which each rectangular window is framed in a small order with a pediment. The nave is covered by an open trussed roof. A square choir opens from the nave by a high triumphal arch.

S. Lorenzo, the church of the Medici, occupies the site and embodies a portion of the structure of one of the oldest buildings in Florence. Consecrated by St. Ambrose in 393, it was partially or wholly rebuilt in the xii century. After suffering great injury by fire in the xv cent. it was again substantially rebuilt, and on a much larger scale, from the designs of Brunelleschi. The work was begun in 1425 and completed after his death. The church is cruciform, with a length of 254 ft. and an extreme breadth of 244 ft. The nave and aisles are separated by Corinthian columns of stone stuccoed over, carrying blocks of entablature from which spring round arches, eight on each side, over which is a high clerestory with single round-arched windows, and a flat wooden ceiling, 72 ft. above the pavement, decorated with gold and color. The crossing is bounded by four high round arches and covered by a square lantern finished within as a low hemispherical dome 35 ft. in diameter, surmounted on the exterior by a square open loggia as large as the lantern below. The choir and transept arms are square and flat-ceiled; about them cluster a series of square chapels, each covered by a low round dome. The bays of the aisles are domed in like manner, and flanked each by a shallow rectangular chapel. At the eastern end of the nave stand two rectangular pulpits of bronze supported on rich marble columns with Ionic capitals, and bearing on their

faces admirable reliefs by Donatello and his pupil, Bertoldo. At the angles of the north and south transepts are two square

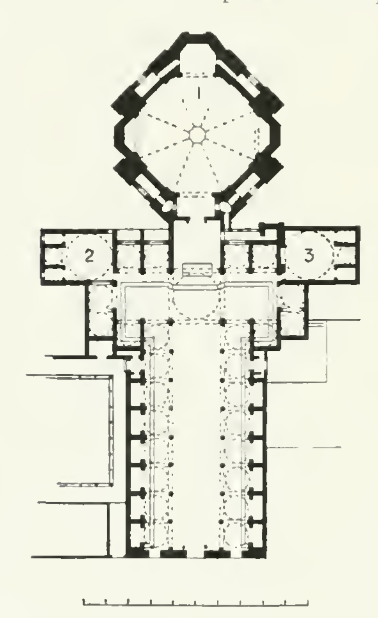


Fig. 77.—Florence, S. Lorenzo.
1. Cap. dei Principi. 2. Old Sacristy. 3 New Sacristy.
Scale of 100 feet.

sacristies, known as the old and new sacristy respectively, the former built by Brunelleschi and richly adorned with paintings and monuments; the latter by Michael Angelo, between 1520 and 1534, for the Medicean Popes, Leo X. and Clement VII., to receive the tombs of Giuliano and Lorenzo de' Medici, the son and grandson of Lorenzo the Magnificent, whose statues and tombs with their associated sculpture are among the most celebrated works of Michael Angelo. Directly behind the choir, but not communicating with it, is the octagonal chapel of the Medici, Capella dei Principi, with recesses of various ungraceful forms opening from four of the sides. It is remarkable rather for the richness of its materials than for its architectural merit, its walls being quite covered with the most costly marbles, jasper, porphyry, agate, lapis lazuli, chalcedony, etc., with armorial bearings and other devices. It contains the tombs of various members of the Medici family in red and gray granite, of great magnificence. The vaulted roof is covered with frescoes painted by Pietro Benvenuto in 1828–37. The church shows the largeness and fineness of proportion which belong to Brunelleschi, also the leanness and meagreness of his details, especially of his entablatures and cornices. Michael Angelo made a design for the façade, which is still preserved. He only executed, besides the new sacristy, the decoration of the inside of the front about the main doorway. On the south side of the church is a large square cloister, from which opens the Laurentian Library (*q. v.*). The exterior of the church is without interest, and is in great measure concealed by adjacent buildings. The façade remains unfinished. (*See Fig. 77.*)

Sta. Maria Novella, a Dominican Gothic church, begun in 1278 under two monks of that order, Fra Sisto and Fra Ristoro; not finished till the middle of the XIV century. Some portions of an older church on the same site were retained. Its plan is a Latin cross about 320 ft. long and 88 ft. wide, with transept 203 ft. long. The nave is separated from the aisles by six high pointed arches on each side of unequal widths, springing from piers whose section, including the vaulting shafts, is a quatrefoil. The high clerestory is pierced with a single round window in each bay. The nave vault is groined in square bays. The spring of the vaults is below the tops of the main arches and the walls above them are unbroken except by small round clerestory windows high up under the vaults. The disposition of the transept is peculiar, each arm having a double bay corresponding to the two chapels that flank the choir on that side, and at each end a large square chapel, one having its floor raised above that of the transept, and

approached by a stairway. These chapels are remarkable for their pictorial adornment, that of the south transept, called the Capella Rucellai, containing the famous Madonna of Cimabue, painted in 1270, with other notable pictures; that of the north transept, the Capella Strozzi, having its walls covered with frescoes by Andrea Orcagna and his brother Bernardo. The choir is square and is flanked by two square chapels bordering the transept on each side, all decorated with frescoes by Ghirlandajo, Lippi, Bronzino, and other masters. The choir has a triple window filled with good stained glass, dating from 1491, and some carved stalls by Baccio d'Agnolo. On the north side of the church are two cloisters, the larger of which had on one side two stories of arcades. From the larger opens the Spanish Chapel, so-called, a square vaulted room built in 1350 and formerly used as a chapter-house, the walls and ceiling covered with remarkable frescoes by Taddeo Gaddi and Simone Memmi. Of the exterior of the church the façade is the notable portion. It is in two stages, whose breadth and height answer to those of the nave and aisles below and the clerestory above; the first stage, composed of a row of high blind round arches on engaged columns, enclosed in an order of Corinthian pilasters and columns with thin entablature and high attic; above which is the second stage, consisting of a square wall faced with four Corinthian pilasters with entablature and pediment, enclosing a small rose window. Broad scroll



Fig. 78.—Florence, Sta. Maria Novella.

buttresses at the base of this story connect it with the lower stage. The walls are of white marble divided into panels by strips of black marble. To the right of this façade the wall is continued by the arcaded wall of a cloister, with low pointed blind arches on square piers, and an ancient tomb under each arch. On the north side of the church, toward the transept, rises a square campanile, much in the Lombard style, terminating in a four-gabled pyramidal spire. The façade is ascribed to Alberti, who was employed to remodel it in 1448. The niches in the lower story are doubtless older, and it is not clear how much of the façade is his design, but perhaps the central door and enclosing Corinthian order is his, and probably the whole upper part, which gives the first example of the scroll-buttresses (just mentioned) which have found innumerable imitators among architects of the Renaissance. (*See Fig. 78.*)

SS. MICHELE E GAETANO (Capella Antinori), a Renaissance cruciform church, about 80 ft. wide and 160 ft. long, remarkable chiefly for certain peculiar features of the interior design. It has a nave nearly 50 ft. wide, covered by a barrel-vault and without aisles, divided into three narrow oblong bays by round arches, springing from square piers faced with Corinthian pilasters at each angle carrying an entablature. On each pier, between the pilasters, is a shallow square recess presumably intended to receive a confessional, and above the entablature, between the round arches which connect the piers, is an arched niche enclosing a statue. On each side are three square chapels, connected by vaulted passages through the piers. The barrel-vault of the nave is pierced by high pointed lunettes, each containing a round-arched window. The transept ends are each a single rectangular bay with a barrel-vault, and from the crossing opens a square choir covered by a low hemispherical dome without a drum. The church was begun in 1604 and finished in 1648.

S. MINIATO is one of the most interesting of Italian churches, not only from the beauty of its design, but also as marking the period of transition in the XI cent. from the basilican to the Romanesque type. Its plan is substantially that of the basilica—a simple rectangle of about 70 ft. by 150 ft., divided into a nave 30 ft. wide between the columns and two aisles. The length is divided into three equal parts by round arches spanning the nave and aisles and springing from high composite columns which are engaged in grouped piers. Each part has three nave-arches on each side, resting on lower Corinthian columns, evidently the spoil of some older building. Both nave and aisles are covered with wooden roofs resting on tie-beam trusses of low pitch. The windowless walls of the aisles are unbroken by pilasters or other architectural features, except the responds of the great nave piers; those of the clerestory are pierced by five small simple round-headed windows in each bay. Of the rear bay, the floor, both in nave and aisles, is raised about 11 ft., forming a choir ending in a round central apse with a hemispherical vault. The side and end walls of the choir aisles have simple round-headed windows; the wall of the apse has an arcade of five round arches on Corinthian columns, in the intervals of which are square windows filled with thin translucent slabs of veined Serravezza marble, which, when the sun is shining upon them, admit a soft light to the interior. The choir is reached from the aisles by two broad staircases of marble, and its front is closed by a panelled fence or balustrade about 5 ft. high, of various marbles, and decorated with great richness and delicacy, its frieze containing a mosaic of animals and geometrical figures. At the right end of the balustrade is a pulpit of similar character. Beneath the choir, and opening into the nave by

three broad round arches, is a high crypt, its floor about 4 ft. below the nave, roofed with four-part vaulting supported on six rows of columns. This church is remarkable not more for the simplicity and elegance of its forms than for the richness and consistency of its decorations. The walls of the clerestory and apse, the spandrels of the great transverse arches and of the intermediate arches of the nave are ornamented with an inlay of marbles of various colors, which is repeated, but with greater richness, in the mosaic pavement of the nave. The semi-dome of the apse is adorned with a mosaic, bearing the date 1297, of S. Miniato offering a crown to the Saviour. Portions of the walls of the choir retain traces of ancient frescoes. The trusses and purlins of the roof are decorated with patterns in color and inscriptions. From the left-hand aisle opens a small Renaissance chapel dedicated to St. James, which is also decorated with great richness — a mosaic pavement, sculptures by Rosselino, the architect of the chapel, and in the ceiling five admirable medallions by Luca della Robbia. At the right of the choir is the sacristy, a square apartment in the Gothic style, decorated throughout with wall-frescoes by Spinello Aretino representing scenes in the life of St. Benedict. The exterior is of brick, perfectly simple and unadorned, except the façade, which is of black and white marble and decorated in harmony with the interior. The first story is an arcade of five round arches, springing from Corinthian columns, with three square doorways. Over this is a simple entablature, on which rises a tall order of flat pilasters, surmounted by a low gable, and flanked by half-gables answering to the aisle roofs. The whole of the wall-surface is adorned with geometrical patterns in black and white marble, and the central interval of the second story contains a large mosaic picture representing Christ seated between the Virgin and S. Miniato. A square Renaissance campanile of simple design, built in 1519 by Baccio



Fig. 79 — Florence S. Miniato.

d'Agnolo, rises on the left side of the church. The first building on this site was an oratory dedicated to St. Peter, which was replaced in 774 by another church, said to have been endowed by Charlemagne in memory of his wife Hildegarde. This church having become ruinous through time and violence, the foundation of the present building was laid in 1013 by Bishop Hildebrand, who established in connection with it a Benedictine monastery now suppressed, but of which the buildings adjacent to the church still remain. The front was rebuilt in the XIV century. (*See Fig. 79.*)

S. Spirito, a Renaissance church, designed about 1440 by Brunelleschi, but

begun after his death, and finished in 1481. Its plan is a Latin cross measuring about 310 ft. in length and 105 ft. in breadth, with nave and aisles separated by arcades of nine round arches springing from blocks of entablature over Corinthian columns. A continuous entablature surmounts the arcades, above which is a high clerestory with a single narrow round-arched window over each of the lower arches. The nave has a flat coffered ceiling. The aisles are divided into square bays covered by flat domical ceilings, and each has a semicircular altar-niche in its outer wall, with a single round-arched window. The choir and transept are equal arms of the cross, each composed of two bays with the aisles continued round their ends; the crossing is enclosed by a rich balustrade of marble and bronze,



Fig. 80.—Florence. S. Spirito

within which the high altar stands under the dome on a square raised platform and covered by a high baldacchino. About it are four high round arches carrying on pendentives a hemispherical dome without a drum, pierced by round windows or *oculi*, and surmounted by a round lantern. A fine octagonal sacristy by Cronaca is joined to the west aisle by a richly decorated and vaulted vestibule by San Gallo. Adjacent to the church on the west are two arcaded cloisters, painted with frescoes, and a slender square campanile by Baccio d'Agnolo. The front is covered with plaster and painted. (*See Fig. 80.*)

Sta. Teresa, a curious Renaissance chapel built in 1628 from the designs of Giovanni Coccapani, for a convent of nuns, and remarkable chiefly for its unusual plan, a hexagon about 33 ft. in internal diameter, with an entrance doorway in one side. A shallow transverse vaulted choir with semicircular ends opens from the opposite side, and sunk in the other four sides are rectangular altar-niches. The hexagon is covered by a pointed hexagonal dome on a drum, with a hexagonal window in each face, and crowned by a lantern.

Sta. Trinità, a xiii cent. Gothic church built, it is believed, from the designs of Niccolo Pisano, but greatly changed in the xvi century. It had nave and aisles of five bays, separated by tall square piers with capitals of unvaried design, from which spring pointed arches. Above the arcade is a high clerestory with pointed windows. The nave and aisles are groined, the former in oblong bays, the latter in square, and the aisles are flanked by rectangular chapels made apparently by dividing up the original outer aisles. The transept arms have each a single groined bay. The square choir was built in the xv cent., with its two flanking chapels on either side opening from the transept. The façade was built about 1593 from the designs of Buontalenti in the modern Italian style, with three entrance doorways, coupled pilasters, and niches containing statues. The campanile dates from 1395. Attached to the

church is a convent, with a fine cloister surrounded by vaulted arcades on columns.

UFFIZI. See *Palazzo degli Uffizi.*

FOGGIA, Italy.

STA. MARIA, an ancient Romanesque cruciform church of the XI cent., measuring about 136 ft. long by 80 ft. across the transept, but much changed by repeated restorations. Its most remarkable feature is the crypt or lower church extending under the whole church, divided into two parts by a solid wall across the end of the nave, which is pierced by three doorways. The only entrances are in the two ends of the transept. The whole is covered with groined vaulting on piers with a cruciform section, except the square at the crossing, where four small columns take the place of the piers. In each transept the east wall is in the form of a round apse, which, however, does not appear externally. The upper church, of corresponding plan, was much damaged by the earthquake of 1731, and was rebuilt in the style of that period. Here, as in the crypt, the transept and choir are each in three aisles, the former having flat round apses in its east wall. The rectangular choir probably replaced an earlier apse. The square façade is in two stages, of which the lower is of the original XI cent. church, the upper belonging to the Norman period, late in the XII century. The former has a blind arcade of five equal round arches, on flat pilasters, the middle arch enclosing a modern square doorway with plain pointed bearing-arch. Of the other arches two have each a two-light window with bearing-arch, and two others a circle in the arch-head, with mosaic. The two stages are separated by a decorated horizontal cornice, above which, in the centre, is a large wheel-window under a pointed arch and flanked by coupled columns, and at each side a blind arch like those below.

FOLIGNO, Italy.

The CATHEDRAL, dedicated to S. Feliciano, is a rebuilding of the mediæval church, of which small portions still exist, notably the Romanesque façade of the south transept, which appears to date from 1201. This has a characteristic porch supported by lions, over it a blind arcade and a wheel-window under a horizontal cornice. The rebuilding was undertaken about 1512; how much it was modified by alterations in the XVIII cent. is not clear. The grandiose plan is a Latin cross, measuring about 230 ft. in length and about 170 ft. in breadth across the transept. The whole interior is encircled by a great order of Ionic pilasters 40 ft. high, from whose entablature springs the vaulting. The nave, about 45 ft. wide, without aisles, is divided by a broad round arch springing from coupled pilasters into two square bays covered with four-part vaulting. The transept ends form each a similar bay; the crossing is covered by a high round dome, raised on a drum surrounded internally by a low order of coupled Corinthian pilasters. The choir is a single square bay covered by a low dome and ending in an apse, round within and octagonal without, whose outside dates from the middle of the XV century. The exterior is almost entirely concealed by surrounding buildings—the unfinished west front and the front of the south transept above mentioned being the only portions standing free.

FONDI, Italy.

STA. MARIA, the former cathedral, is a cruciform church of the second half of the XII cent., with a flat Renaissance façade carrying a low pediment between two horizontal cornices. There are three square doorways, of which the middle one is flanked by columns, and covered by a semicircular panel charged with figure reliefs. The old Norman tower still stands on the north side of the church, in three stages, the lowest pierced by a high pointed arch on two sides through which a street is carried, the upper stories with two-light windows, and the whole crowned

by a plain, low octagonal lantern with a sharp roof. The interior has pointed arches springing from grouped piers and wooden ceilings, except the bay at the crossing, which has a groined vault with pointed arched ribs, and the three eastern apses.

FOSSANOVA, Italy.

The CISTERCIAN CONVENT is a very old monastery, reputed to have been founded

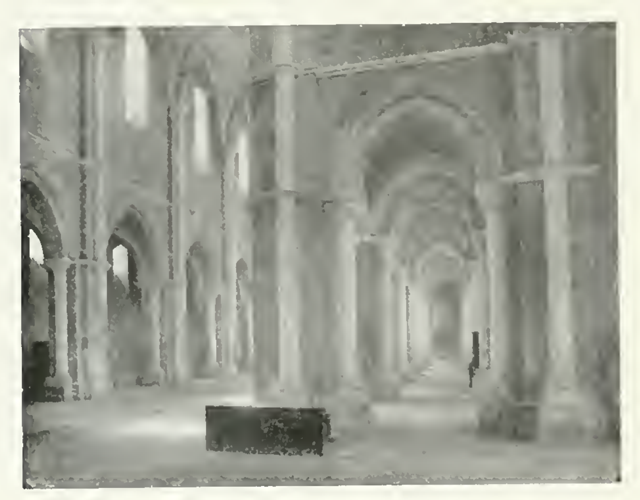


Fig. 81 —Fossanova, Abbey Church.

in St. Benedict's time, but transferred by Innocent II. in the XII cent. to St. Bernard, and by him repeopled with French monks from Clairvaux. Rebuilt or restored in 1135, it was soon after burned and again rebuilt, and consecrated in 1208. The buildings, once inclosed by a high wall whose great entrance-lodge still remains, are perhaps the best representative that is left of an Italian mediaeval monastery. The church, evidently the work of French builders, and mostly rebuilt in the pointed style after the fire, is of almost purely French Gothic type, cruciform, with nave and aisles of seven bays, a square-ended choir of two bays in the Cistercian fashion, a transept flanked by four eastern chapels. It has a single square tower, over the crossing, and a single west door—both also peculiarities of the Cistercian churches. The main arcades and the vaults are pointed, the piers cruciform, with engaged shafts, and the vaulting-shafts start from corbels half-way up the lower piers. There is no triforium, and the windows of aisles and clerestory are round-arched. The single door of the front has richly moulded jambs and traceried tympanum. Over it is a handsome wheel-window. Evidently a triple porch or narthex was once carried across the front, or at least begun, but it has disappeared. Aisles and gables are low, but mouldings and capitals and other details both outside and in are characteristically French. The central tower is octagonal, in two stories with twin round-arched windows in each face, and a pyramidal roof crowned by a lantern. Most of the conventual buildings remain in good preservation. In line with the eastern wing of the transept is the chapter-house, rectangular, in six groined bays, the vaults carried on two clustered piers with French crocket-capitals. In the southern angle of the church is the cloister, arcaded in groups of arches, three and four, round-arched on three sides and pointed on the south, with coupled columns and richly carved capitals of great variety. Against the south walk is a graceful well-house, square, pyramidal roofed, and open on all sides through coupled round arches. (*See Fig. 81.*)

FRASCATI (anc. Tusculum), Italy.

AMPHITHEATRE, on the ancient Via Tusculana, two miles from Frascati, in a depression between two hills. It is elliptical, the greater axis, 230 ft., the lesser, 170 ft.; the axes of the arena are 157 ft. and 95 ft. The interior is in ruins, and only the substructions and fragments of wall

of reticulated work remain. Excavations have disclosed canals through the arena, similar to those in the Colosseum, and serving to convert the amphitheatre into a naumachy. It is presumed to be of somewhat late date.

The ARX or citadel retains many ancient remains, especially parts of the wall of massive squared blocks, like the earliest walls of Rome. On the slope of the hill, near the theatre, is a grand stretch of the old city-wall. The sides of the hill are full of chambers or artificial grottoes.

Roman THEATRE, small, but remaining comparatively perfect. The cavea has nine tiers of seats almost uninjured, and is divided into four cunei by radial stairways. The stage-structure remains in great part, but awaits excavation. The theatre faces the west toward a magnificent outlook, with Rome and the sea in the distance. At the back of the theatre there are ruins of a smaller one, perhaps an odeum or lecture-room, the so-called Children's Theatre.

VILLA ALDOBRANDINI, one of the most extensive and elaborately designed of all the great pleasure-houses of the Roman suburbs. Like most of the suburban villas, its attractiveness lies much more in its grounds than in its architecture. These are entered from the great square of the town. From the lower level of the grounds a stately double curving staircase leads to a terrace with semicircular ends, some 300 ft. long and 70 ft. broad, on one side of which rises the retaining wall of the upper terrace, about 450 ft. long, on which the villa stands. Of this the façade has a centre about 150 ft. long, in four stages, with wings of one story somewhat receding. The design, by Giacomo della Porta, is quite without merit. Behind the palace is a higher terrace on a level with the principal story, from which a central portico gives entrance to the great apartments. This terrace is bordered by an imposing loggia with a semicircular centre, with broad niches forming a background for fountains, and behind, following the abrupt slope of the wooded hill, is a most elaborate system of cascades. These, which make with the other water-works of the estate its chief features, were designed by Giovanni Fontana and Orazio Olivieri. The villa was built about 1598 under Clement VIII., by his nephew, Cardinal Pietro Aldobrandini.

VILLA MONTE DRAGONE, an enormous country-house built about 1567 by Martino Lunghi for the Cardinal Altemps, nephew of Pius IV., enlarged by Gregory XIII., and completed and embellished for Paul V. and his nephew, Cardinal Scipio Borghese, by Flaminio Ponzio and Giovanni Vasanzio. It has been called the largest and most magnificent of all the suburban houses of Rome. The main palace measures about 320 ft. in length by 108 ft. in breadth, and is of two stories, rather clumsy in design, with a great square court behind, closed on one side by a long gallery decorated with paintings, and on a third side by a long suite of apartments in two stories. Behind this again is a semicircular terrace. At the fourth side of the great court, but on a lower level, is a large rectangular garden enclosed by walls, with an arched entrance loggia in front, and at the back an elevated terrace approached by a double flight of steps, having in the centre a semicircular basin and fountain, and enclosed by a semicircular wall decorated with an order of Ionic pilasters with great niches in the intervals, the whole disposition of great elegance and on a scale of unusual grandeur. The Villa was long abandoned, but came finally into the hands of the Jesuits, who established a school there.

GABALA. See *Jebeleh*.

GADARA (Mkês), Peræa, Palestine.

COLONNADED STREET, as at Palmyra, Gerasa, etc. The shafts are monolithic: many of the bases remain in place. The

street is paved with slabs which bear the marks of chariot-wheels. On the west side of the city, on an elevation, are considerable remains of a stoa or portico in good masonry; many of the column bases are still in position. Near by there is a range over 700 ft. long of small parallel chambers, and beyond, the ruins of a fine columnar structure in basalt.

NECROPOLIS, on the slopes to the east of the site. About two hundred fine sarcophagi of basalt remain, besides many that are broken, sculptured with garlands and busts of Apollo and other divinities. There are also many rock-tombs. Some of the massive doors still swing on their original stone pivots, and some of the chambers contain sarcophagi.

Large THEATRE, east of the city, not far from the necropolis. It is entirely built up of basalt, not supported against a side hill, and is in good preservation and very handsome. There is in the auditorium a precinction or horizontal gallery, arched at the back, and there are vaulted substructions. The stage and orchestra are buried in rubbish.

Small THEATRE. The upper parts are ruined. It rested in part upon a side hill, in part on vaulted galleries; the remains are in good masonry of large blocks.

GAËTA (anc. Caeta), Italy.

The CATHEDRAL, a cruciform church consecrated by Paschal II., in 1106, was rebuilt in 1792, and has no interesting feature remaining save its square tower attached to the wall of the transept. It is in four stages—the first of stone with a high pointed arch with classic columns under the imposts, the three others with two-light round-arched windows. The stories are capped with cornices, of which the third and fourth are enriched with friezes of interlacing arches. The tower is crowned by a high octagonal lantern with a similar frieze and four queer angle turrets.

S. GIUSEPPE, a small rectangular basilica, whose origin goes back to the Lombard period, or the second half of the IX cent., but largely rebuilt about 1055 under the Normans. Its nave has five arches on each side, supported on columns with archaic capitals, and ends in a round apse. Above the arcade is a high clerestory with a small window over each arch; at the middle bay the transept crosses, the nave and transept being tunnel-vaulted. The arches are round, except two at the crossing which are broader than the rest and pointed, and are carried up through the clerestory. These two, with two transverse arches across the nave, carry a hemispherical dome on squinches. The aisle bays are groined. The vaults of the nave and transept appear on the exterior, being uncovered by any wooden roof. The exterior has been modernized.

TORRE D' ORLANDO, the ancient tomb, as shown by an inscription, of L. Munatius Plancus, the founder of Lyons. It is a massive cylindrical tower, half a mile from the town on the summit of the promontory, and forms a very conspicuous object in the landscape. There are also at Gaëta remains of an amphitheatre, theatre and temple, and of a villa of Hadrian.

GALLIANO, near Milan, Italy.

The BAPTISTERY is of singular design and irregular construction. It is of two stories, of which the lower is in plan not unlike that of the baptistery of Biella (*q. v.*); a small square with a semicircular niche or apse opening from each side, covered by a semi-dome. The arches which form the openings of these apses spring from rude octagonal piers detached from the walls, but connected with them by narrow arches. A small entrance vestibule occupies one apse, from which two winding stairs in the thickness of the wall lead to the upper gallery. The opposite one is a tribune with raised floor and an altar. The ancient circular font, cut from a

single block of granite, stands in the middle of the floor. Upon the four great arches the square wall of the central portion of the building is carried up, with two round-arched windows in each face opening under irregular vaults over the four apses below. Over the eastern apse is a chapel like the tribune below it, and with an altar. Above the vaulted spaces the plan of the central wall is changed to an octagon by squinches in the angles, supporting an octagonal dome with a low conical roof, under which are four plain, round-headed, two-light windows. The roof covering is everywhere of slate laid directly on the masonry of the vaults. The baptistery is considerably earlier than the cathedral, and is thought to date from about 850.

S. Vicente is an ancient and simple basilica, with nave and aisles covered with wooden roofs, and ending each in a round apse, of which the central one has a high raised floor with a vaulted crypt beneath. An ancient pulpit stands in front of the tribune, and the remains of the original frescoes are still to be traced on the walls of the tribune and crypt. An inscription seems to indicate that the church was built in the first years of the XI century.

GENOA (Genova, Gênes), Italy.

Albergo dei Poveri. This great almshouse, one of the largest in Europe, founded in 1654 by Emanuele Brignole, was built by Antonio Conradi and Girolamo Gandolfo. It is a great quadrangle some 500 ft. square, divided by cross-wings into four courts. In the middle is a church 115 ft. long, from which the cross-wings radiate. This has a nave and round choir decorated with an order of Corinthian pilasters, over the choir a dome on a high drum, and over the nave a barrel-vault. The plain three-storied exterior is broken at the corners by pavilions, and the front by a projecting centre terraced up from the valley before it with high steps.

The Cathedral, dedicated to S. Lorenzo, is a Gothic church dating from the XII cent., built on the foundation of an earlier church, of which some portions still remain, restored some two hundred years later, and subjected to substantial changes in the XVI century. Its three western doorways open into an entrance porch in three bays covered by groined vaulting, over which is a gallery opening into the church, built for the use of the Doge. The nave and aisles (the latter of unusual breadth and height) are separated by large columns of veined marble with Corinthian capitals, carrying pointed arches, above which, on a continuous band bearing an inscription, is a fine upper arcade of coupled round arches divided by short columns, the bays separated by square piers, all the masonry, including the columns and voussoirs, being banded in white marble and dark-green serpentine. This arcade probably corresponded to an upper story in the aisles whose floor was removed. Above it is a bare clerestory, with plain square windows. The nave is covered with a barrel-vault. The aisles, carried up to the base of the clerestory wall, are covered by groined vaulting. The crossing is covered by an octagonal lantern, built in 1567; the transept arms are groined and do not project beyond the aisle walls. The choir, which is modern, has a single narrow bay, and an apse, flanked by a smaller apse on each side. A continuous line of chapels opens from the south aisle, and an irregular series from the north aisle, among which the most conspicuous is that of St. John the Baptist, octagonal in plan, originally contemporary with the church, but rebuilt in the XIV cent. and again in the XVI, and separated from the church by a rich *cinque-cento* screen. The exterior is of white and dark marble in alternate courses. The façade, built at intervals during the whole XII cent., had it been completed, with its two flanking

towers and its central gable with a great wheel window, must have been one of the finest in Italy. The lower portion consists of three magnificent portals, deeply splayed, the jambs and arch-heads decorated with shafts of various forms, with sculpture and marble inlay, with more of the character of the northern Gothic than is often found in Italy. Over the side doorways is a triple arcade of pointed arches on coupled columns, each arch containing a two-light window. But in the remainder of the front, with the exception of the central gable and its wheel window, the Gothic character is lost; the northern tower is unfinished; the southern, completed in the XVI cent., and rather Renaissance than Gothic, ends in a belfry stage with two mullioned windows in each face, crowned by an octagonal lantern. The church has a noble early side doorway of Lombard character, with extremely interesting sculpture. (*See Figs. 82, 83.*)

LOGGIA DE' BANCHI (The Exchange), a rectangular building of a single story,

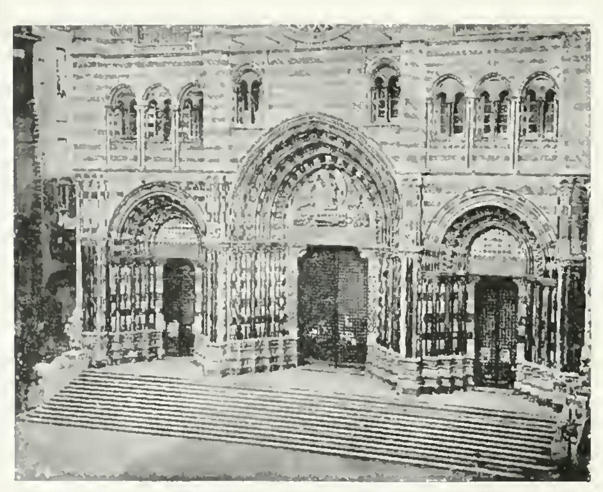


Fig. 82.—Genoa, Cathedral, Porches.

measuring about 60 ft. by 105 ft., reputed to have been the work of Alessi in the last quarter of the XVI cent., but ascribed by some to the XVIII. One side and one end consist of an open arcade on coupled Doric columns carrying blocks of entablature from which the arches spring, and surmounted by an attic. The same architecture is carried around the building, the arches on the other sides being walled in. The interior, undivided by piers or columns, has a high coved ceiling under a wooden roof without tie-beams.

OSPEDALE DI PAMMATONE, the great Hospital for Incurables, is one of the largest and one of the finest in Italy. It was originally a private foundation by Bartolommeo Bosco, a lawyer of Genoa, who built from the designs of Orsolino a palace covering an area about 182 ft. by 330 ft., with a spacious vaulted entrance-hall leading by a broad straight staircase in the centre to a grand court about 65 ft. by 120 ft., surrounded by a simple arcade on Doric columns of white marble, beyond which is a stately double staircase. The architecture is simple, but the vestibule, court, and staircases have the character and scale of those of the great private palaces of Genoa. Perhaps the earliest attempt at hospital ventilation is to be seen in this building, fresh air being admitted from openings in the outside walls, and distributed to the wards below, through registers which can be opened or closed at will.

PALAZZO BALBI (called also the Balbi-Senarega), an interesting palace built early in the XVII cent. by Bartolommeo Bianco. Its internal disposition is extremely effective; a comparatively simple square entrance-hall leading to a vaulted staircase hall, and beyond to a noble square court surrounded by three stories of vaulted arcades on Doric columns. Beyond this again is a formal garden flanked on one side by an arcade

supporting two stories of building, and terminating in a circular exedra enclosing a magnificent fountain with niches and statues behind an arcade. The palace has a fine suite of state apartments richly decorated with paintings by Genoese artists, and containing one of the best collections of pictures in Genoa, including examples of Titian, Vandyck, Rubens, Tintoretto, Caracci, Michael Angelo and other masters.



Fig. 83.—Genoa Cathedral Interior.

Palazzo Balbi-Durazzo. See *Pal. Durazzo.*

Palazzo Bianco. See *Pal. Grimaldi.*

The Palazzo Brignole, one of the smaller of those attributed to Alessi, is distinguished by some features of unusual elegance. Its façade is in three divisions, of which the middle one is slightly recessed, and in two principal stories with a mezzanine between, and a projecting cornice crowned by a balustrade. In the centre division a group of three openings, the middle one arched, the others square, gives access to a square vestibule, from which a short stair, ascending through a triple-arched screen, leads to an oblong court, divided by two rows of Doric columns into square vaulted bays. The side walls are decorated with niches enclosing statues, and in one opens a fine staircase, of which the landing in the upper story is extremely effective.

The Palazzo Brignole-Sale, to which



Fig. 84.—Genoa. Pal. Doria-Tursi.

the designation *rosso* is given because its façade was painted red, was built in the XVII cent., and has a boldly treated central front of about 93 ft. between two lower wings, which are probably additions, and a depth of 117 ft. It has a large and rather simple entrance-hall, with a plain staircase opening from the side. Beyond is a fine square court, with two stories of arcades supporting a third story of flat wall. The palace contains what is considered to be the finest collection of pictures in Genoa, and was with all its treasures given to the city in 1874 by the Duchess of Galliera, the descendant of the Brignole family.

Palazzo Carega, one of the smaller palaces of Genoa, covering an area about 88 ft. by 120 ft., but interesting from its rather unusual plan, its fine façade, and the rich decoration of its entrance-hall and the gallery over it. Its front is in three stages, the lowest a plain wall with a central doorway and three windows on each side, with pedimented caps, the second and third faced with Ionic and Corinthian pilasters respectively, with windows in the intervals similar to those below. A large cornice terminates the front, with consoles and square windows between. The palace was built by Galeazzo Alessi, late in the XVI cent. and afterward considerably altered, especially within, by Castello.

Palazzo Doria-Tursi, a large and imposing palace, built after 1550 from the designs of Rocco Luzago, and now occupied by the offices of the municipality of Genoa. It has a spacious but rather simple entrance-hall, and a broad stair ascending to a grand court with two stories of surrounding arcades and a great staircase beyond. The façade is in two stages, each comprising a principal and a mezzanine story within an order of pilasters. In the lower stage the pilasters are rustic and the window-facings rather ro-

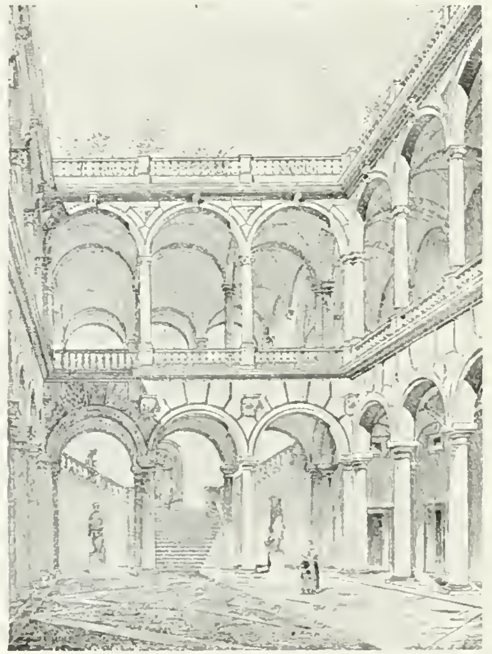


Fig. 85.—Genoa. Pal. Doria-Tursi, Court.

coco. A Doric console-cornicione finishes the façade, which is extended on each flank by an open arcade of the height of the lower stage, raised on a terrace which is continued still farther, its whole length being about 350 ft. The arcades of the wings mask gardens at the level of the great court. (*See Figs. 84, 85.*)

The PALAZZO DUCALE (Ducal Palace), still retains its original designation as the residence of the Doges of Genoa in the XVI cent., though its uses are now rather those of a city hall and a court house. The buildings are very extensive, covering an area measuring roughly 300 ft. by 350 ft., enclosing a great court about 150 ft. square, at the base of which is the entrance to the principal apartments. A central door gives access to a fine entrance hall 50 ft. broad and 130 ft. long, with a vaulted ceiling, supported on eighty columns of white marble. From the middle of this splendid hall rise the stairs to the second story, and at the ends are open courts enclosed by two ranges of vaulted arcades. Over the entrance hall is a hall of the same size and of even greater magnificence, the walls decorated with an order of Corinthian columns and pilasters of brocatello with entablatures and pediments of yellow marble, with a balcony above and a domed and richly panelled ceiling, the height being something over 60 ft. The façade of this portion of the building, making one side of the great court, is about 135 ft. long, showing a high basement story with mezzanine, included in an engaged order of coupled Doric columns with rustic wall and plain square windows, and an arched doorway in the middle interval. The principal story has a corresponding order of engaged Ionic columns, and square-headed windows with caps straight and pedimented. The entablature is richly adorned and is crowned with an attic.

PALAZZO DURAZZO (known also as the Balbi-Durazzo, and as the Durazzo-Pallavicini), the smaller of the two palaces bearing the name of the Durazzo family in Genoa. It consists of a central rectangular mass about 105 ft. broad and 130 ft. deep, with lateral extensions from



Fig. 86.—Genoa, Pal Durazzo.

front and rear. Its principal feature is an imposing entrance-hall in the centre of the front, about 32 ft. by 50 ft., with a short staircase occupying its full width, divided into three bays by Doric columns supporting a groined ceiling, and leading to a square court surrounded by vaulted arcades, the vista from the entrance hall through the court being closed by a sort of exedra, with a niche at its base enclosing a statue. From a corner of the court opens a staircase hall decorated with much richness and elegance, and covered with a barrel-vault. The façade, absolutely simple in point of detail and ornament, is effective from its extent and the disposi-

tion of its parts. It is nearly 200 ft. long, in two stages, each including a high story with mezzanine. Its centre is crowned by



Fig. 87.—Genoa, Pal. Durazzo, Stairway in Court.

a cornicione supported on consoles, and its wings continue in the lower stage the design of the centre, while the upper stage consists of an open arcade of three round arches supported on Doric columns, with balustrade between. The palace was built, it is said, in the XVII cent. for the Balbi family, by Bartolommeo Bianco. The staircase is attributed to Tagliafico. (*See Figs. 86, 87.*)

The PALAZZO GRIMALDI, or Palazzo Bianco, was built after the middle of the XVI cent. from the designs of Alessi, with a rather simple front of something over 100 ft., and spacious vestibule leading to a court about 30 ft. square, enclosed by two stories of arcades on Doric columns, the lower divided by cross arches into square bays, each covered by a low decorated dome, the upper covered by a continuous barrel-vault. A fine vaulted staircase opens from the extremity of one of the arcades.

The PALAZZO LERCARI (also Parodi), though comparatively small has interesting features. The main building is a rectangle measuring about 100 ft. on the front, and about 50 ft. in depth, with a square vestibule in the centre and a fine staircase opening from it. From the angles two wings advance to the street, enclosing a court about 42 ft. square surrounded by an arcade, and closed on the front by a wall of rustic masonry on the first story, with a doorway in the middle between four windows, surmounted by an open vaulted loggia of great elegance flanked by enclosed pavilions, which have an open third story. The principal rooms have some delicate ornamentation in stucco. The palace was built toward the end of the XVI cent. from the designs of Alessi.

PALAZZO DEL MUNICIPIO. See *Pal. Doria-Tursi.*

PALAZZO NEGRONI, a small palace of which the architect is unknown, but in plan and design similar to most of those from the hand of Alessi. In the centre of its front of about 76 ft. three grouped openings, the centre one marked by a small portico of Doric columns, lead to an oblong vestibule from which a short stair ascends through a triple arcade to an oblong court surrounded by two stories of arcades, at the farther end of which is an elaborate nympheum in three bays of the full breadth of the court. The great double staircase deserves notice.

PALAZZO PARODI. See *Pal. Lercari.*

The PALAZZO REALE, formerly belong-

ing to the Durazzo family, but which became the property of the King of Sardinia in 1815, is one of the largest and most imposing of the Genoese palaces. The central building is about 112 ft. square, with two wings projecting toward the rear enclosing a court without much splendor, and two lateral wings from the front, increasing the façade to a length of something over 300 ft. The entrance vestibule and inner staircase hall are as usual the chief internal features; the former is in this case flanked by two arcaded galleries over the side walls. There is a second court behind the right wing of the façade. The palace was begun in the middle of the XVII cent. by Angelo Falcone: the main entrance, added by Fontana fifty years later (1705), has put the rest of the façade out of countenance.

PALAZZO ROSSO. See *Pal. Brignole-Sale.*

S. AGOSTINO. A Gothic church of the XIII cent., and one of the few churches of that age in Genoa which retain their original features substantially unchanged. It has a simply designed west front in three divisions, divided by pilaster-strips ending in arched corbel-tables: the raised centre division has a square doorway under a pointed bearing-arch, with a round window above and a low gable. The side divisions, following the outline of the aisle-roofs, have each a single pointed-arched window, now walled up. The masonry is in alternate courses of white and dark marble. The square tower is of brick, its two upper stages with grouped pointed windows, and is crowned with an octagonal spire with square pinnacles at the angles.

S. AMBROGIO, or the Chiesa di Gesù, a Renaissance church built in 1589, with an unfinished façade begun in 1639 by the Jesuit father Valeriani. It is cruciform, with a central dome, nave, and deep square-ended choir, each in two bays, and a transept with one bay in each arm. The front shows three plain doorways in the intervals of an order of coupled Corinthian pilasters. A like order of single pilasters adorns the interior, where the arms of the cross are covered by barrel vaults, and the aisles, lined with shallow chapels, by domes invisible from without. The whole interior is rich, after the Jesuit fashion, with mosaics, paintings, and gilding.

STA. ANNUNZIATA. One of the most conspicuous of the Genoese churches, built toward the end of the XVI cent., from the designs of Giacomo della Porta. Its plan is a rectangle about 110 ft. wide and 205 ft. long, with a nave and short transept covered by continuous barrel-vaults, and aisles by a series of flat-domed ceilings with a low dome at the crossing. Nave and aisles are separated by a richly decorated arcade, of which the arches



Fig. 88.—Genoa, Sta Annunziata

spring from Corinthian columns of white marble and are surmounted by a full entablature, also richly adorned and connected with the columns by panelled pilaster strips. The vault of the nave is pierced by lunettes containing square windows, and the projecting choir ends in an apse. Each aisle is flanked by a line of rectangular chapels. The materials of the interior are of great richness, the walls being lined throughout with various marbles arranged in geometrical patterns, and the ceilings everywhere decorated with paintings. The façade is of brick and is unfinished, with the exception of a projecting Ionic portico. (*See Fig. 88.*)

St. Cyrus. See *S. Siro.*

S. Donato, an ancient Lombard church dating from about 1000, but somewhat changed a century later. It has a nave and aisles separated by columns partly antique and of various marbles, with rude capitals carrying round arches, a transept, and choir. The crossing was originally covered by a low dome, which was replaced by an octagonal tower in two stages with grouped windows and arched corbel-tables. The lower part of the façade is Lombard work with a characteristic early doorway bearing date 1108; the upper later, with pointed arches and banded masonry.

S. Giovanni di Prè, or del Prato. A Gothic church, dating in its present form from early in the XII cent., but with some portions remaining of the original building of a century earlier. It has a nave and aisles, a transept not projecting beyond the aisle walls, an apsidal choir, and an open, arcaded porch on the south side, flanked by a square campanile with grouped windows in the upper stages, and an octagonal spire with corner pinnacles. The ground, falling away south and west, gives opportunity for a pointed arcade under the south aisle, which affords an entrance to the crypt of the XII cent. that extends under the choir and apse, and is now used as a warehouse.

Sta. Maria di Carignano, a Renaissance church built about the middle of the XVI cent., from the designs of Galeazzo Alessi. Its plan is a Greek cross, with its centre covered by a stilted hemispherical dome about 42 ft. in diameter, with high drum and cupola, and the four arms of the cross with barrel-vaults, the angles being filled out by aisles of a single square bay covered with low interior domes, making the outline of the plan a square of about 170 ft. An order of coupled Corinthian pilasters encompasses the interior, supporting the vaults and the arches and pendentives of the dome. The choir ends in a semicircular apse covered by a semidome. The Corinthian order of the inside is repeated on the exterior, broken on three sides by pedimented gables with great lunettes in the tympanums. At the corners of the west front are two slender, square towers, tall and wide apart, with

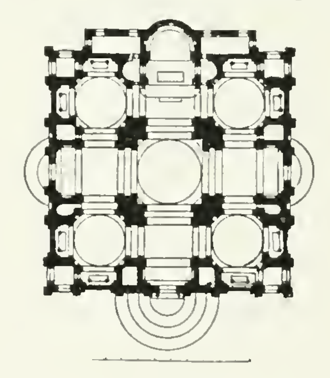


Fig 89—Genoa, Sta. Maria di Carignano.

octagonal lanterns, and in the middle a rococo doorway. The drum of the central dome has an order of coupled Corinthian pilasters, the intervals filled with deep arches enclosing large windows. (*See Fig. 89.*)

S. Matteo. This small church is a venerable memorial of the Doria family, who founded it early in the XII century. The front, added in 1278, is banded in

black and white marble, and shows the outline of nave and aisles, ending in an arcaded cornice and central gable. A large round window under the gable, and a pointed doorway with an old mosaic in the tympanum, are flanked by two side-windows, and the façade is covered with inscriptions which tell the glories of the Doria family and the gratitude of Genoa. The interior, rebuilt in Renaissance style for Andrea Doria by Montorsoli in 1530, has a nave and aisles in five bays with arches supported by marble Composite columns. The graceful cloister dates from the early XIII cent., partly perhaps from the XII cent., and has pointed arcades supported on coupled columns.

S. SIRO (St. Cyrus), a Renaissance church of the XVI cent., built on the foundations of an early Lombard church, the original cathedral, of which scarcely anything remains except the tower. The church was restored in 1820, and now consists of a nave and aisles about 75 ft. wide in four bays, with a range of shallow chapels opening from each aisle, a transept which does not project beyond the aisle walls, and a square choir flanked by chapels and prolonged by a round apse. The barrel-vaulted nave and aisles are separated by coupled Corinthian columns carrying arches. The crossing is covered by a round dome. The old Lombard tower, banded in light and dark stone, has a double belfry-stage with two-light windows in each face under a round bearing-arch, and is capped by an octagonal spire of stone with square angle pinnacles. (*See Fig. 90.*)

The UNIVERSITY, one of the most magnificent of Genoese palaces, was built by the Balbi family in 1642 for the service of the Jesuits, and was used by them until their expulsion in 1773. Its architect was Bartolommeo Bianco. It covers a space about 136 ft. wide and 80 ft. deep, the greater portion of which is occupied by a noble entrance hall, and the great

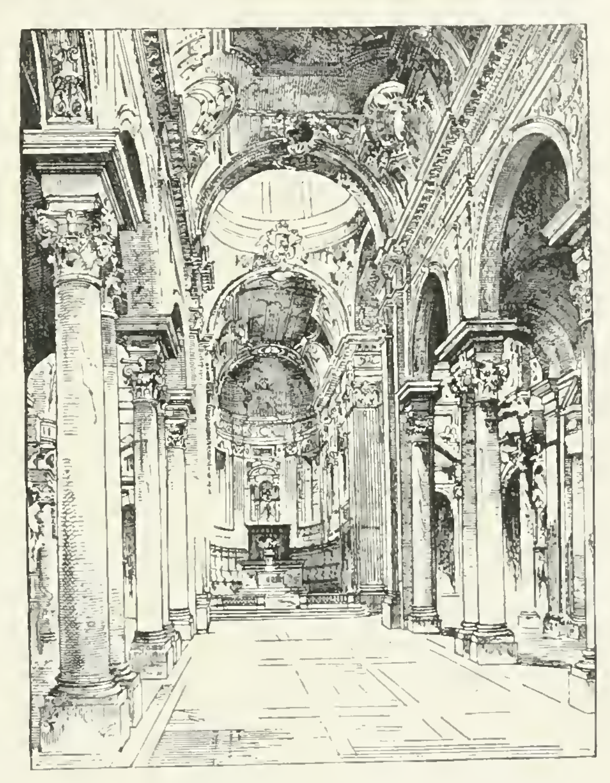


Fig. 90.—Genoa, S. Siro.

court to which it leads. The former is about 70 ft. broad and 40 ft. deep, and contains a stately staircase flanked by two colossal lions at the foot, and leading to the court, whose pavement is some 12 ft. above the street. This court measures about 45 ft. by 80 ft., and is surrounded by two stories of vaulted corridors with open round arches springing from coupled columns capped by entablatures, Tuscan in the first story, Ionic in the second. Above the second arcade the wall of the third story recedes by the breadth of the corridor. At the farther end of the court is a great staircase hall, with a staircase in

two wings. The façade in three stories, set on a high basement, is disposed in three vertical divisions of nearly equal breadth; the middle slightly receding. In the centre is a square doorway with coupled rustic columns on either side carrying an entablature and segmental pediment. The windows are all square with balustrade courses, and rather rococo dressings in the first story—in the upper stories simple enclosing architraves, with pediments alternately triangular and segmental. The front is crowned with a fine modillioned cornicione. The interior contains a library and a natural history museum. The halls are decorated with frescoes by native painters, and bronze statues by John of Bologna.

VILLA (Palazzo) SAULI, formerly Grimaldi. One of the smaller of the Genoese palaces, the building itself covering an area about 107 ft. wide and 62 ft. deep, but preceded by a fine entrance court or atrium nearly 60 ft. square, surrounded on three sides by an open arcade with coupled Doric columns of white marble and entablature, the front of the palace making the fourth side, of which the second story is a spacious open gallery with arcaded walls and a richly panelled and decorated vaulted ceiling. The rear elevation on the garden is of great elegance, in two stages, each with an order of coupled pilasters, Doric below and Corinthian above, the lower order enclosing an arcade with long windows and square mezzanine windows above, the upper order with pedimented windows, also with mezzanine. A richly decorated entablature with balustrade above it terminates the façade. The palace was built in the second half of the XVI cent. from the designs of Galeazzo Alessi.

GERACE. See *Locri*.

GERASA (Jerash), Peræa, Palestine.

BASILICA, north of the junction of the colonnaded streets. In the surviving part of its walls are three arched windows and two square-headed, above which is a range of highly ornate broken pediments. One Corinthian column of the two ranges of the interior is standing, and the semicircular apse or tribune is almost perfect.

BATHS, to the right of the main street in the N. E. quarter of the town. The main building was about 200 ft. square, with a colonnade in front. The chief entrance was vaulted, and square vaulted wings projected on the north and south sides. Portions remain of the aqueduct by which water was supplied.

FORUM, of oval plan, about 300 ft. long. It was surrounded by a peristyle of Ionic columns, of which fifty-eight in detached groups still stand, with part of their entablature. From the forum starts the impressive colonnade-bordered street which intersected the whole town. About one hundred of the columns are still standing, some 15 ft. apart; of many more the bases and lower parts remain. The height is about 15 ft., but there seems to have been, in addition, an open gallery above the columns. The chief cross-street, intersecting the main street at right angles, was also bordered with colonnades; four massive bases at the junction indicate the presence of a monumental gateway or *tetrapylon* spanning the two streets with its arches.

GATE in the walls outside of the town, presenting the appearance of an arch of triumph. Its width is 82 ft., and the height of the central one of its three arches is 29 ft. Over each of the side-arches is a window-like niche. The columns on the south side have a sort of pedestal of acanthus leaves above the bases proper. The date seems to be of the time of Trajan.

NAUMACHY, more probably a circus, near the triple gateway south of the city proper, in a hollow between hills. It is about 690 ft. long and 300 ft. wide. Some of the tiers of seats are in part preserved. The arena is enclosed with good

masonry, and the existence of water-channels connecting it with the brook gives force to the identification as a naumachy.

PROPYLÆA, on the left-hand side of the main street, opposite the basilica. It is of impressive size. The lintel of the great portal has fallen. On either side are two niches in the wall, with florid broken pediments. To the north stands a structure which may have been a palace.

Great TEMPLE, probably of the Sun, on a large terrace on the west side of the town. The cella of the temple proper, oriented toward the east, is 78 ft. by 66 ft. in plan; its walls are standing on three sides. In the side walls there are six oblong niches, and in the back wall a vaulted passage with a small, dark chamber on each side. A number of the beautiful Corinthian columns of the peristyle are still standing; they are 38 ft. high and like those of the Temple of the Sun at Palmyra. The temple was hexastyle, with two interior ranges of columns before the portal. It stood in a large colonnaded court, many of the columns of which are still erect.

TEMPLE, on the east side of the brook, near the north wall of the town. It was about 150 ft. square; part of the wall is standing, with a vaulted portal, and one of the interior columns. There is sculptured ornament of good execution.

TEMPLE, on an elevation, left of the south gate of the town. Its walls, 7½ ft. thick, contain series of niches and windows. One Corinthian column of the peristyle is standing, and bases of others are in position. There was a double range of columns before the entrance. The interior of the cella was adorned with Corinthian pilasters, and the roof was of stone. The dimensions are about 69 ft. by 48 ft.

Large THEATRE, close to the southern city-wall, near the temple by the south gate. It faces the north. Twenty-eight tiers of seats are visible, divided into two sections by a precinction or horizontal gallery, at the back of which are eight small chambers, perhaps boxes. There was access to the precinction from without by vaulted passages. The top of the auditorium was skirted by a gallery. The ornate stage-structure is in great part destroyed; it had three portals, the central one square, the two at the sides arched, and was decorated with niches and Corinthian columns. The capacity of the theatre is estimated at five thousand spectators.

Small THEATRE, N. E. of the Great Temple. Sixteen tiers of seats remain visible. Between the tenth and eleventh tiers from the top is a horizontal gallery with six arches in its back wall, and niches between every two arches. Below the auditorium vaulted substructions exist. The orchestra and stage are buried; the wall of the stage was adorned with detached columns. This theatre was approached from the main street by a side street bordered with columns, at the entrance of which there is a flat-domed *tetrapylon* or monumental gate, circular in plan within and square without. The rotunda was ornamented with statues.

GERME. See *Kremna*.

GIRGENTI (anc. Akragas, Agrigentum), Sicily.

STA. MARIA DE' GRECI. See *Temple of Athena*.

TEMPLE OF ÆSCULAPIUS, a Doric edifice, 30 ft. by 65 ft., whose remains are included in the structure of a modern house between the ancient southern wall and the sea. An anta on the north still stands to a height of 17 ft., and one of the antæ on the south side is entire. The temple had both pronaos and opisthodomos *in antis*, on a sterobate of four steps. Despite its inconsiderable size it had a high reputation, and in it was dedicated a celebrated statue of Apollo by Myron.

TEMPLE OF ATHENA, as it is identified

with probability, an important archaic Doric temple whose remains are now incorporated in the church of Sta. Maria de' Greci, the oldest church in Girgenti. The temple was peripteral, hexastyle, with thirteen columns on the flanks, on a stylobate of three steps. Parts of the shafts of seven columns are visible on the north side, with various other fragments.

Temple of Castor and Pollux, or of the Dioscuri, within a short distance of



Fig. 91.—Girgenti. Temple of Castor and Pollux.

the temple of Zeus, a Greek Doric monument of good style. The four columns standing, which form the N. W. angle, with their entablature and a portion of the pediment, were re-erected in 1860. The stone is coated with fine stucco, upon which color was applied. In plan the temple was peripteral, hexastyle, with thirteen columns on the flanks on a stylobate of three steps. The chief dimensions are: stylobate, steps included, 51 ft. by 111 ft.; columns, base-diameter, 3 ft. $10\frac{1}{2}$ in., height, 21 ft. 2 in.; cella, $18\frac{1}{2}$ ft. by $79\frac{1}{2}$ ft. (*See Fig. 91.*)

Temple of Concord, so called, on the border of the southern slope of the city, the best preserved Greek Doric temple except the so-called Theseum at Athens. It is of the best time, the v cent. B.C., and is of great beauty, though falling short of Attic perfection. In plan it is peripteral hexastyle, with thirteen columns on the flanks, on a stylobate of three steps. The cella has pronaos and opisthodomos, each with two columns *in antis*, and the entrance is flanked on each side by a winding stair which gave access to the upper parts of the structure. Both pediments survive, though the roof is gone, as well as all decorative sculpture. The columns have twenty channels; they are of rough stone and were coated thinly, like the rest of the exterior, with fine stucco. The stylobate, steps included, measures 65 ft. by 138 ft.; the cella 30 ft. by 95 ft. In the xv cent. this temple was converted into a church dedicated to S. Gregorio delle Rape, and somewhat damaged in the conversion: it was restored by the King of Naples in the last century.

Temple of Demeter and Persephone, according to the probable identification, a very early monument which was converted into the mediæval church of S. Biagio, now itself ruinous. The pronaos is occupied by the apse of the church, and a pointed doorway is established in the back wall. In plan the temple presents a cella with two columns *in antis*. The walls, which are built of excellent masonry, remain almost entire. The columns and cornices have perished. The stereobate, including the steps, measures 40 ft. by 90 ft.

Temple of Hera Lacinia (of the Lacinian Promontory near Crotona), now a very picturesque group of columns at the southeastern angle of the ancient city. It was Doric, still presenting archaic features, and is assigned to the time between 500 and 480 B.C. In plan the

temple was peripteral, hexastyle, with thirteen columns on the flanks. The cella had pronaos and opisthodomos, each with two columns *in antis*. A part remains of the base of the cult-statue in the cella. The columns have twenty channels and an echinus of firm and refined curve; the architrave is higher than the frieze—an archaic characteristic. The material is a rough stone, which was coated with fine hard stucco. The chief dimensions are: stylobate, steps included, 64 ft. by 160 ft.; columns, base-diameter, 4¼ ft.; height, 21 ft.; cella, 30 ft. by 91 ft.

TEMPLE OF HERCULES, at the edge of the southern slope, just inside of the city-wall. This structure, one of the most famous of the Doric temples of the opening period of full development, is now a confused heap of ruins, amid which lie capitals, column-drums, and members of the entablature, all of admirable execution. In plan it was peripteral, hexastyle, with fifteen columns on the flanks and an increased number of steps in front. The cella had pronaos and opisthodomos, each with two columns *in antis*; the lower portions of the former are still standing. Examples of the interesting polychrome decoration of this temple are in the museum at Palermo. The chief dimensions are: stylobate, including steps, 90 ft. by 241 ft.; cella, 45 ft. by 156 ft.; height of columns, 32¾ ft., which is a little more than four and a half diameters. The cyma of the cornice had a sheathing of terra-cotta with lion-heads as antefixes, and adorned with anthemia and palmettes in relief and colored. In this temple was the famous statue of Hercules whose attempted theft by Verres was the subject of Cicero's denunciation.

TEMPLE OF VULCAN, so-called, a Roman monument at the S. W. angle of the ancient city. Portions of two fluted columns are standing, and parts of the cella walls. The columns have twenty flutes and stand on square plinths; their base-diameter is 4⅓ ft. The ground plan measures 63 ft. by 125½ ft.; the stylobate has three steps.

TEMPLE OF ZEUS, at the western extremity of the southern slope, a huge monument which counts among the most notable examples of the Doric style. It is pseudo-peripteral in plan and lies in a confused heap of ruins. The plan is abnormal in that it presents an uneven number of columns, seven, on the fronts; there are fourteen on each flank; to the semi-columns of the exterior corresponded pilasters in the interior. In the interior ranges of huge atlantes above the pilasters supported the roof-beams. The fronts are restored, with doors in the second inter-columniations from each angle. Diodorus Siculus informs us that the eastern pediment was filled with a sculptured Gigantomachy, and the western with the fall of Troy, both in high relief and much admired. As usually restored the temple presents a long central cella or open court; but it has been very plausibly suggested that it may have been a double temple with a central longitudinal division, like the so-called Basilica at Pæstum. In date it falls between the victory at Himera, in 480 B.C., and the taking of Akragas by the Carthaginians in 406. Its scale is enormous. The stylobate, steps included, measures 182 ft. by 363 ft.; the height of the semi-columns was 55 ft. A considerable part of the ruins was used in the XVI cent. in the building of a mole for the port.

TOMB OF THERON, so-called, a nondescript structure of much later date than Theron, lying a short distance outside of the city-walls, to the south. It belongs to the second period of Akragas (405 to 200 B.C.), and no doubt to the end of that period. It is of two stories: in the upper story a fluted Ionic column with angle-capital, at each corner, supports a Doric entablature. The lower stage is plain, 17 ft. square, with a projecting cornice. There are blank windows in two

of the faces of the upper stage. There was no door; that now existing on the south side is modern. The height to the top of the frieze (the cornice is gone) is 25 ft.

GJOLBASCHI (anc. Trysa), Asia Minor.

GREEK MAUSOLEUM, explored since 1881 by the Austrian Government. It consists of a large rectangular enclosure about 65 ft. by 88 ft., in admirable masonry of horizontal courses of limestone. Its chief importance lies in the very extensive and remarkable sculptured friezes with which its walls were adorned, both inside and out. These sculptures form the most important series of ancient relief surviving, except the friezes of the Parthenon, of Phigaleia, and of the Mausoleum at Halicarnassus. While inferior in execution to the Panathenaic Frieze, they are superior in interest and variety of subject and incident to both the other friezes. The subjects include a very important representation of the story of Troy, evidently inspired by some other than the Homeric account, a combat of Centaurs and Lapiths, hunting scenes, incidents from the Odyssey, the hunt of the Calydonian boar, and banqueting and dancing scenes. These last were appropriately placed in the interior, which was evidently arranged for holding funeral banquets and ceremonies of kindred nature. The work is certainly not Lycian; it is safe to assume that it is by sculptors of Athenian training, and in date not far from 420 B.C. The south wall was the only one which bore a frieze on the exterior; in this wall, too, was the door. The lintel bore on the exterior four heads of winged bulls and a Gorgon-head; on the interior a range of grotesque figures, resembling the Egyptian Bes, with musical instruments. The interior jambs bore large dancing figures. These decorations of the door form almost the only trace of oriental influence that can be made out in the monument. Around the interior were ranged sarcophagi. The precious series of sculptures is, since 1883, in safety at Vienna.

GORTYNA, Crete.

PYTHION, or Temple of Apollo, an early Greek foundation, modified about the III cent. B.C. by the Greeks, and at a somewhat advanced imperial date altered and in part rebuilt by the Romans. The original structure consisted merely of a cella of Poros stone, facing the east and wider than deep. To this was prefixed during the Hellenistic epoch a Doric closed pronaos — hexastyle, pseudo-prostyle, rising from a stylobate of three steps. A base of two steps, besides the plinth-course (*enthynteria*), surrounded the three other sides. The semi-columns were $3\frac{1}{4}$ ft. in lower diameter, and five and a half diameters high; the intercolumniation (centre to centre) was $11\frac{1}{2}$ ft., those at the angles being eight inches less; in every intercolumniation there rose a square pilaster or buttress, apparently designed for the inscribing of laws placed under the guard of the god; such laws were inscribed also on all the exterior walls. The frieze was disposed on the ditriglyph principle. The cyma of the cornice was ornamented with lion-heads; the pediment was crowned with an elaborate acanthus acroterium of Corinthian character. The Romans pulled down the Greek cella and rebuilt it with the same materials, but with the use of cement, and formed in the back wall an apse 21 ft. wide. The new cella had two interior ranges of three unfluted Corinthian columns, and in each side a rectangular niche. It was encrusted altogether or in part with slabs of white marble. The dimensions of the temple were 64 ft. by 83 ft.; of the pronaos, 55 ft. by 20 ft.; of the cella, 53 ft. by 47 ft. An altar of Roman date stood before the temple. A number of votive statues of good workmanship were found in the excavations, among them an Apollo, undraped ephebes, female figures, the head of a priest, and the torso of an emperor.

GRADO, Venetia, Austria.

The CATHEDRAL is a basilica of moderate size, about 70 ft. by 160 ft. over all. It has a nave about 30 ft. wide, of eleven rather narrow bays, round-arched, one apse round within and polygonal without, and single aisles. In front of the façade, which is somewhat oblique to the axis, is a wide open porch or narthex, one end of it filled up by the campanile, which stands against the south aisle. The pillars of the nave are Roman shafts with ill-fitting capitals, some of which are Roman, others of fine Byzantine workmanship, and some undecipherable. The walls are plain, and the former round-arched clerestory windows are replaced by late lunettes. The slab tracery of one of the original aisle windows, preserved in the sacristy, is of interlacing bands in concrete, and similar tracery, tradition says, once filled the clerestory. The church was floored with a rich mosaic of colored marble, of which a considerable part still remains. At the end of the apse is the marble patriarchal chair, a composite of old Byzantine fragments. The very singular marble pulpit is of two periods; the body of it, Byzantine, is a six-foiled circle in plan, like one of those in S. Mark's at Venice, resting on six marble columns, and carrying a canopy, Saracenic in style, with cusped ogee arches, and a checkered dome which, however, is of painted brick. The baptistery is a plain detached octagonal building with an eastern apse. An inscription in the mosaic pavement commemorates the rebuilding of the church by the patriarch Elias (571–586), and the existing church may very well be that which he built.

GRAVEDONA, Italy.

BAPTISTERY of S. Giovanni Battista (St. John the Baptist), an interesting example of a class of buildings very characteristic of the architecture of North Italy in the XI and XII cents., and of which Florence, Pisa, and Parma on a large scale, and Novara, Asti, and Biella on a small, furnish notable instances. That at Gravedona is peculiar in being treated like a church, with high walls enclosing a square of about 40 ft., east and west gables, and a lofty western tower; the usual forms being round or polygonal. On the two sides and the east end are low round apses. From the middle of the west front projects a square tower, with a round-arched doorway with splayed jambs and a plain tympanum. At the line of the gable it changes to an octagon of three stories, with small grouped round-arched windows in four sides, separated by columnar mullions, each story crowned by an arched corbel course, the whole terminated by a low domical roof. The entire walls of the building are of white marble with stripes of dark limestone. The stripes are omitted in the octagonal portion of the tower. The interior is extremely simple, its square being quite undivided and covered by a wooden roof. The three apses are roofed by semi-domes, and above these on either side is a triforium of seven arches. The interior walls have been decorated with paintings in distemper, now nearly obliterated.

GUBBIO (anc. Iguvium), Italy.

The PALAZZO DEI CONSOLI, called also the Palazzo del Commune, stands picturesquely opposite the Municipal Palace, at the west end of the public square which, open to the south, is terraced up from the steep side of Monte Calvo. It is like the Tuscan municipal palaces in character, a high bold mass, its front only broken by broad pilasters and sparingly pierced by coupled round-arched windows, the whole building crowned by an arcaded cornice and great square battlements. The south front, advancing down hill, is propped up on a tall pointed arcade and ends in an open loggia of coupled round arches—apparently an addition—below the main cornice, from which on the angle rises a square bell-tower battlemented like the

rest. The palace was built in 1332–40 by Matteo di Giovanello, called Il Gattapone. (*See Fig. 92.*)

The ancient THEATRE is now excavated and in part restored. According to an inscription, it was built by Gn. Satrius Rufus, at a cost of four hundred thousand sesterces, for the purpose of celebrating in it the triumph of Augustus. It is estimated that it could seat sixteen thousand spectators.



Fig. 92.—Gubbio, Pal. dei Consoli.

HAGIOS PHOKAS, Lesbos, Ægean Sea.

TEMPLE OF DIONYSOS (Bacchus), a small Doric structure with two columns *in antis*, on a height above the sea. The workmanship dates it in the first century B.C. It is interesting because of some deviations from the normal Doric, which, as they occur also in the neighboring though much older temple of Assos, may be taken as indications of a local development. Thus, the shafts of the columns have but sixteen channels, and notably the epistyle is sculptured with figure-reliefs. Epistyle and triglyph-frieze are formed on the same block. The site of the temple is now occupied by a chapel of St. Phokas.

HALICARNASSUS (Boudroum), Caria, Asia Minor.

MAUSOLEUM or tomb of Mausolus, reckoned in antiquity as one of the seven wonders of the world. It was erected by his Queen Artemisia, 352 B.C., under the direction of the architects Satyros and Pythis, and with coöperation of the sculptors Scopas, and possibly Praxiteles. It had the form of a peristyle of thirty-six Ionic columns, nine on the fronts and eleven on the flanks, surmounted by a pyramid of twenty-four steps, crowned by a chariot bearing the statues of Mausolus and Artemisia in a quadriga. The columns were slender, very tapering, with twenty-four flutes. The tomb proper was in the high and massive basement. The frieze bore reliefs, the cornice had dentils, and the cyma was ornamented with anthemia and lion-heads. The total height was about 140 ft., and the material white marble. The remains of the mausoleum were in great part destroyed in 1552 by the Knights of Rhodes, who used its materials for building a castle. A number of its reliefs and the statues of Artemisia and Mausolus are now in the British Museum.

HAMMEH (anc. Amatha), Palestine.

ROMAN BATHS, in great renown in antiquity on account of the hot springs they utilized. The waters are still in great favor with the Arabs. There are important remains of halls and chambers with barrel-vaulting, all built of handsome masonry in basalt.

HASS, Syria.

TOMB OF DIOGENES, in the necropolis, a notable monument in ashlar of large

blocks. There are two stories. The lower story is a massive cube preceded by a portico, upon which opens a handsome door formed of two hinged slabs of basalt bearing in relief the monogram of Christ. The lintel is ornamented with acanthus leaves. The interior is ceiled with a barrel-vault divided into two bays by an arch springing from pilasters. Five niches surround the walls, each holding a sarcophagus. The upper story consists of a chamber which was originally surrounded by a colonnade; it also contains sarcophagi.

HATZOR (?), Galilee, Palestine.

EXTENSIVE REMAINS of an ancient city of Cyclopean construction, identified by M. de Saulcy as the Hatzor of Scripture. In the middle of the enclosure is a structure nearly 200 ft. square, with towers or projections at the four corners. The masonry is in unshaped and very slightly shaped stones. The site is inadequately explored, though de Saulcy's account is confirmed by those of other travellers.

HAURAN, Syria.

The district called the Hauran, in central Syria, a barren region within a radius of perhaps a hundred miles south and east of Damascus, contains abundant remains of an ancient architecture so unique, and so compacted in a great number of small villages near together, that it is natural to describe it here under a single title. It all dates from the early Christian centuries, up to the Mohammedan invasions in the VII, its chronology being fixed by inscriptions. The country is, and was, bare of wood, and the buildings are accordingly entirely of stone, even to the roofs, floors, doors, and window-shutters. The stone, a volcanic dolerite, is cut with great precision, and laid without mortar, in blocks and slabs; the round arch and lintel are used freely in combination; the carved ornament, which is lavish and finely wrought, shows a progressive development from a Greco-Roman to a Byzantine character, almost Romanesque. The houses are floored and roofed with slabs of stone; the larger rooms are spanned by a series of round arches, close enough to give a bearing for the slabs, which are 8 ft. or 9 ft. long. Many of the houses are preserved uninjured, and are appropriated by the Arabs as dwellings. They are almost always entered through courtyards, and fronted with open galleries or porticoes of stone, often in two stories, supported by columns or pilasters which carry lintels and sometimes arcades, and defended in the upper stories by panelled stone parapets. A little farther north, and east of Antioch, is another district which contains an architecture almost identical with that of the Hauran, in which, however, owing to the nearness of the wooded region of the Lebanon, the churches and larger buildings were covered with wooden roofs, either gabled or lean-to. The churches in both these districts are numerous and interesting, and generally accompanied by conventual buildings. They display a remarkable number of the peculiarities of plan and construction that were afterward developed in the monastic architecture of Europe. They are mostly of uniform type—three-aisled basilicas without transepts, the nave and aisles separated by arcades, usually on columns, carrying a clerestory. In only one instance, the small basilica at Betursa (given by De Vogüé), the columns bear lintels instead of arches. An open colonnaded porch or narthex fronts them, and they usually end eastward in a single apse with windows, flanked by the two small rooms which in the Byzantine churches are known as the *diaconicon* and *prothesis*. The round apse sometimes projects eastward, and is sometimes masked by a straight wall. Perhaps the cathedral of Bozra is the only church in which it takes the usual Byzantine form, round within and polygonal without. There is another

type, square or octagonal, and roofed with domes of rubble masonry, carried on squinches, or on a sort of pendentives rudely corbelled out from the corners, which perhaps show the first step in the development of the regular finished Byzantine pendentive. A great variety of elaborate tombs is scattered over the country, in a great variety of forms—hypogean, rock-cut, monolithic, or of finished masonry; and in the shape of subterranean chambers, obelisks, cells, pyramidal, gabled, domed, sometimes mere trestles, and sometimes complete temples *in antis*. They are apt to be the earliest structures in date, and the most classic in style. All the buildings, except a few of the earliest, bear the marks of a Christian origin in symbols and inscriptions. Many are dated, and some show even the names of their owners and builders. (See *Bakusa*, *Bozra*, *Ezra*, *Kalat Siman*, *Kalb Luzeh*, *Kanawat*, *Mujelia*, *Ruweiha*, *Shakka*, *Siah*, *Suweda*, *Tafka*, *Turmanin*.)

HEBRON, Palestine.

The GREAT MOSQUE is a building of great sanctity for Moslems. They believe it to cover the Cave of Machpelah, in which Abraham was buried. It has a massive enclosing wall, built of very large stones with drafted jambs, like the walls of the Haram at Jerusalem, and probably the work of the Jews. This wall, which is over 50 ft. high, with no openings but two doors, and is broken only by a series of pilaster-like buttresses, encloses a quadrangle about 100 ft. by 200 ft., with the long axis north and south. Upon it the Arabs have built an additional story, and minarets at the corners. The south end of the area is occupied by a church, or other building, in the style of the Crusaders. It consists of three aisles of three bays each, covered with groined vaulting on pointed arches, but it has no apses, nor other indication of the arrangement of a Christian church of its period, while in the south wall, toward Mecca, is the usual *mihrab*, or Mohammedan prayer-niche. Several later chambers have been built about the enclosure, and in them and in the mosque are seen the tombs of Abraham's family. A hole in the floor of the mosque is the opening to the cave below. The tradition of the burial here of the patriarchs is very old. Josephus mentions their monuments wrought in marble; the Bordeaux Pilgrim in the IV cent. describes the outer wall substantially as it still appears. The calif Ibn Kalun is said to have lined the walls of the mosque with marble and built the outside additions in 1331, but there is no account of the origin of the earlier work. The rigid exclusion of Christians from the enclosure has prevented a complete knowledge of the building.

HELIOPOLIS. See *Baalbek*.

HERCULANEUM, Italy.

BASILICA, on the street north of the theatre. It was 228 ft. long and 132 ft. wide, with a peristyle of forty-two columns, and was ornamented with mural paintings. It is now difficult to study satisfactorily, as its remains have long been neglected.

HOUSE OF ARGUS, so named from the subject of a mural painting found in the triclinium. The plan is of the type of the most elegant houses of Pompeii. At the entrance is a vestibule with two long benches, and two stuccoed pilasters to support the roof. There are two garden-courts with peristyles; the second of these had twenty columns and six piers, and both had rich capitals formed in white stucco. Upon the peristyles open the usual rooms, summer and winter dining-rooms, exedras, tabularium, etc. The painted ornament is of excellent taste and execution; it includes architectonic designs on a red or a black ground, and marine views. There is also some good relief-decoration in stucco, besides several pavements in mosaic.

THEATRE, in excellent preservation, but difficult to see satisfactorily owing to its being underground and to the presence of many piers serving to sustain the town, nearly 90 ft. above. It has sixteen tiers of seats, divided into six *cunei* or wedge-shaped divisions by seven radial flights of stairs. Above these seats is a wide precinction or passage, and above this again a portico, originally encrusted with white marble, and three more tiers of seats. Below the ordinary seats are five wide steps for seats of honor, immediately surrounding the orchestra. The orchestra was paved with thick slabs of giallo antico. The stage, raised about 4 ft., is about 79 ft. long and 29½ ft. deep, with three doors opening in the back wall, the central one in a semicircular recess. It is estimated that the cavea could seat ten thousand people. The theatre and Herculaneum itself were discovered accidentally in 1709, by the sinking of a well, which brought to light fragments of colored marbles, mosaics, and sculptures. But little excavation, however, apart from desultory efforts to secure plunder, was conducted until the beginning of the present century.

Among the other chief ruins of Herculaneum, are those of the so-called House of Aristides, where was found the Æschines statue of the Naples Museum, originally identified as Aristides, the Forum, temples to the Mother of the Gods and to Hercules, a prison of three stories, and a round-arcaded magazine built of brick in horizontal courses and *opus reticulatum*.

HIERAPOLIS (Pambouk Kalessi), Phrygia, Asia Minor.

MONUMENTAL STREET, extending in a straight line out from the north gate of the city. It was bordered on both sides by long stoas or porticoes formed of Doric semi-columns engaged in rectangular pillars, and terminates in a triumphal arch or gate, with three arched openings between two massive round towers. The architrave of this gate bears an inscription in honor of Septimius Severus (193–211 A.D.).

THEATRE, toward the east side of the city, of Roman date, but Greek in many details, as in the excess of its plan over a semicircle. The cavea, which faces west, rests in part upon a side-hill, and in part upon vaults. The diameter is about 340 ft.; that of the orchestra, 90 ft. There were nineteen tiers of seats below the *diazoma*, or horizontal passage, and twenty-six tiers above the diazoma, which is bordered above by a podium. There are eight *klimakes*, or radial stairways in the lower division of the cavea; one of them subdivided in the upper division. The cavea was surrounded above by a monumental colonnaded gallery, with arches opposite the stairways and the middle of every wedge of seats. The front wall of the stage-structure had in the lower story five doors with coupled columns, and in the upper story niches between columns with spiral fluting, and a frieze and other sculpture of good execution. Behind the stage was a hall 90 ft. long and about 14 ft. wide, with a range of columns against the back wall of the stage. The stage-structure had projecting wings built immediately against the extremities of the cavea. The material is a hard, marble-like stone.

The great THEATRE, outside the city walls on the north side, is from its plan undoubtedly Greek, though it is much ruined and has not been adequately studied. It rests against a side-hill facing south of west; the cavea is divided into three by two precinctions or horizontal passages. The diameter is about 540 ft.; that of the orchestra, about 124 ft.

THERMÆ, two buildings forming wings projected at right angles to the main structure, with a spacious court between them. On the side facing the court, these wings were open, having ranges of square pillars with Corinthian capitals. These structures were probably waiting-rooms.

The front of the main building was a large vaulted hall, with a smaller chamber at each end. Behind were spacious corridors, the bathing-rooms proper, indicated by water-conduits still in place, and other halls which probably served for gymnastic exercises and similar purposes.

WALLS of the ancient city, surviving in great part, with several gates, and rectangular towers. Within the walls are remains of two basilicas and many other edifices, and without the walls is a third basilica and a very extensive and interesting necropolis. Two of the basilicas appear to be Christian; the third is more ancient.

HIERON PROMONTORY. See *Anatoli Kavak.*

HISSARLIK. See *Ilion.*

HOSN SULEIMAN (anc. Bætocece ?), Syria.

SANCTUARY, probably of Jupiter. The *temenos*, or sacred enclosure, measures about 293 ft. by 612 ft., and is built in part of enormous blocks, some of them reaching the size of 29 ft. by 10 ft. by 3½ ft. In the middle of each side is a gate of the pylon type, all with gigantic monolithic lintels. The soffits of the lintels bear each an eagle holding a caduceus, between two genii. The doors are flanked by niches, and carved with victories, telamones, and elegant mouldings. An inscription on the chief gate, that toward the north, applies to a date between 253 and 259 A.D. In the middle is a small pseudoperipteral Ionic temple, which appears never to have been completed. In front of it stands an altar. Without the enclosure, on the north, rises a large group of buildings, including a small temple *in antis*, called by the Arabs ed-Deir.

IADERA. See *Zara.*

IASOS (Asin Kalessi), Asia Minor.

The remains include the fortifications of the old city, which covered a large area, and those of the small new city, occupying an island, now a peninsula, which may well have been the original acropolis. The walls of the old city are of rough coursed masonry. These walls are peculiar in that they are pierced with a very large number of posterns and windows, evidently intended to provide for a very aggressive defence in case of siege. There is a number of semicircular towers, and a few of rectangular plan. The walls may be dated by analogy from about the last quarter of the V century B.C. The walls of the new city are of much more careful masonry, with rustic face, and a draught at the angles of towers, etc. There are towers, both square and semicircular in plan, and a well-fortified gate. These walls may date from the middle of the IV cent. B.C., or even later; they consist, as is usual, of an outer and an inner facing, with a filling of rubble. The theatre in the new city is well preserved; its masonry is in great part of the same character as that of the fortifications; there are remains of the stage-structure. A Roman aqueduct of some extent lies outside the walls.

PALÆSTRA, adjoining the stadium. The plan is rectangular, 269 ft. by 121 ft. It consisted of two rectangular buildings, one at each end, each divided into three halls, connected by two colonnades, one on each side. The enclosed court was the palæstra proper. An inscription on the wall of the west building shows that both end buildings were dedicated by one Diocles to Artemis Astias and the emperor Commodus.

THEATRE, on the top of a hill, of the IV or V century B.C. In plan it is nearly semicircular; the exterior diameter is 246 ft., that of the orchestra, 75 ft. Of the seats sixteen tiers remain with portions of others. They are of white marble, sculptured with lions' paws. The exterior wall of the cavea is of large squared stones, laid without mortar; the wall of the stage-structure is of smaller stones and appears to be a later construction.

IGUVIUM. See *Gubbio*.

ILION, Troad, Asia Minor.

The remains investigated by Dr. Schliemann since 1872 are included in an acropolis of very small extent, at Hissarlik, which was a seat of settlement from remote ages through classical times. The city in the plain below has disappeared, leaving but very slight traces. The settlements of succeeding ages are marked on the acropolis by superimposed strata of ruins and *débris*. According to the latest study, while the lowest layer represents the most ancient city and goes back to a very remote antiquity, the second layer displays a state of civilization corresponding to that pictured in Homer, and agrees, though more ancient and primitive, with the remains found at Mycenæ and Tiryns. Next above come several layers evidently produced by rude and poor village-settlements, continuing the civilization of the preceding layer. And finally we have the remains of the historic Græco-Roman city of Ilion. The citadel of the lowest stratum is only 150 ft. wide, with walls of rough stones about 8 ft. thick enclosing rough house-walls of small stones bonded and coated with clay. The second city, or Homeric Troy, has a massive citadel wall, consisting of a revetted stone substructure, inclined on the exterior at an angle of forty-five degrees, and 13 ft. broad on top. This foundation was originally crowned with a wall of unburned bricks, strengthened with wooden beams built in. Several gateways and towers are visible, the former planned closely in the way afterward followed by the Hellenic military engineers. Within the citadel are remains of a palace, of similar plan to that at Tiryns, but simpler. The walls have a substructure of stone, the upper portion being of unburned bricks. There is plain evidence that this city was destroyed by a great fire. The most important of the finds in this stratum is the so-called Great Treasure, now in the Berlin Museum. It includes diadems, chains, earrings, bracelets, and cups of gold, vases and bars of silver, jars, and various weapons of copper. The decoration of a few of the ornaments is more advanced than that of the others, and of a similar character to that from Mycenæ. The pottery is much ruder than that from Mycenæ. The third, or village-settlement, displays very rough walls of inferior masonry, belonging to very small buildings. The fourth, or Græco-Roman citadel, shows walls of regular, well-jointed ashlar, and scanty remains of two Doric temples. From one of these comes the well-known metope sculptured with Helios urging on his four horses. Coins, abundant remains of pottery of different dates, inscriptions, and all the usual remains of the later civilization have been found, together with an elaborate Roman gateway, with a vestibule, three doors with Corinthian semi-columns, and an outer portico of four Doric columns, to which probably corresponded an inner portico of two columns *in antis*.

INTERAMNA, Picenum, Italy. See *Teramo*.

INTERAMNA, Umbria, Italy. See *Terni*.

IRBID. See *Arbela*.

ISERNIA (anc. Æsernia), Italy.

The massive walls in polygonal masonry of the ancient town serve as the foundations of the modern walls almost throughout the circuit, and possess much inherent interest. The most curious survival from antiquity, however, is the long rock-hewn aqueduct which begins at the bridge on the side toward Solmona. It has six air-shafts, the largest of them 83 ft. deep. This aqueduct still supplies the fountains and factories of the modern town.

ISTHMIAN SANCTUARY, Corinthia, Greece.

TEMPLE OF POSEIDON (Neptune). It was approached from the side of the thea-

tre and stadium by an avenue adorned on one side by a row of pine-trees, and on the other by statues of victors in the Isthmian Games. The temple was of only moderate size, but was richly endowed with works of art. On the exterior were tritons of bronze, and in the pronaos two statues of Poseidon and others of Amphitrite and of Thalassa (the Sea)—all of bronze. The sculptures in the cella were dedicated by Herodes Atticus, and included four horses held by two tritons, and chryselephantine statues of Poseidon and Amphitrite standing in their chariot. There were also in the temple statues of other maritime and local divinities. The Temple was of Doric order, in the rough stone of the Isthmus, which was coated with stucco and painted. The remains of columns and entablature indicate a date of about the middle of the VI century B.C. The columns had only sixteen channels, were 4 ft. 10 in. in diameter at the base, diminishing to 4 ft. at the neck, and about 20 ft. high. The peribolos of the sanctuary was about 940 ft. long from S.W. to N.E., and about 700 ft. wide at the broadest place, from which it diminished rapidly in width toward the south, forming in plan a very irregular pentagon.

Roman TRIUMPHAL ARCH or gateway on the N.E. side of the sanctuary. It consisted of three arched passages, the central one, for vehicles, about 13 ft. wide, and the two on the sides about 6 ft. 6 in. wide. The whole width of the monument is about 50 ft. It survives to a height of some 13 ft., and the paved way with the deep ruts of the ancient chariots, still leads through the widest opening. The masonry is in large blocks, laid without cement, ornamented with mouldings, and dating apparently from the time of Augustus.

IZNIK. See *Nicæa*.

JERASH. See *Gerasa*.

JERUSALEM, Palestine.

APOSTLES' CAVERN so-called, but variously identified, in the Valley of Hinnom. The entrance is surmounted by a frieze of corrupt Doric, with eight metopes, each with a patera or rosette of different form from the others, besides arabesques and vine-patterns. The metopes are separated by diglyphs the regulæ beneath which have only two guttæ. There are several inner chambers with benches and loculi for sarcophagi. Both the vestibule and the chambers have Byzantine paintings on the ceilings and walls. Here, according to a tradition of the XVI cent., the apostles concealed themselves during the trial and crucifixion of Christ.

ARCH OF PILATE. See *Ecce Homo Arch*.

CHAPEL OF THE APPARITION. See *Church of the Holy Sepulchre*.

CHAPEL OF THE ASCENSION, a small chapel on the Mount of Olives, commemorating the ascension of Christ—all that remains of a large and famous church. It is an octagon of about 21 ft. diameter, composed of eight pointed arches, once open, now blocked. The original columns engaged in the piers, and the corbelled cornice, are clearly Romanesque, the drum and the dome that surmount them are later Arabic work. Although St. Luke's Gospel declares that the Ascension took place at Bethany, Eusebius says that Constantine commemorated it by a large and splendid church on the top of the Mount. St. Jerome says that it was a great round church, of which the centre had to be left open to the sky, because the Lord's body had passed there, and that his last footprint (which is still shown) was marked in the ground. The original building was destroyed by the Persian Chosroes (614), and rebuilt or replaced by Modestus. The present chapel is doubtless a fragment of a large octagonal church built by the Crusaders, from which five bases of clustered angle-piers still remain in position, built into walls with which the later Moslems have enclosed a

court, making a mosque. The various Christian Churches are still allowed to worship in it, and have each an altar or niche there.

CHAPEL OF THE CROSS. See *Church of the Holy Sepulchre.*

CHAPEL OF ST. HELENA. See *Church of the Holy Sepulchre.*

The CHURCH OF ST. ANNE, adjoining the N. E. corner of the terrace of the Temple, keeps its original form more completely than any other building of the Crusaders in the Holy Land. It is a small church, 63 ft. by 110 ft. within, consisting of a nave and aisles of three bays, choir, and transept, with three eastern apses side by side. Over the crossing is a pointed dome. The plan of the church is distinctly western in character, its execution shows Byzantine and Syrian influences. The nave, 28 ft. wide, has square bays; it and the aisles have plain groined vaulting with only cross-ribs: the vault of the transept is a transverse pointed wagon-vault. The piers are cruciform groups of pilasters, there being no round shafts anywhere except in the jambs of the principal window; there are scarcely any capitals, and the inside is severely plain. The apses are Byzantine in form, round within and octagonal without, the dome probably Saracenic. The high-placed windows of the aisles and the clerestory windows of the nave are pointed. The exterior is very plain, except the east front, which has a single doorway and over it a clerestory window, both with enriched moulded archivolts, the window with Corinthian nook-shafts in the jambs. All the roofs are flat and the walls without cornice or parapet, broken by plain buttresses which run to the top. In this building, as in other buildings of the Crusaders, the pointed arch is used systematically and exclusively, as it was not at that time yet used in Europe; the form of the arch is broader and lower and more Saracenic than was common in Europe, but the carving and moulding, so far as it goes, is altogether Byzantine-Romanesque. There is record of a Christian church and convent here as early as the VII century. But it was not till the repudiated wife of Baldwin I. took refuge in it (1104) that the convent became important. From that period doubtless dates this present church. After the expulsion of the Latins, Saladin established a school in it, and so it was preserved by the Mussulmans till, in 1856, after the Crimean War, the Sultan Abdul Mejid gave it to the Emperor Napoleon III. Since then it has been in the hands of the French, by whom it has been restored. Under the church and entered from the south aisle is a rambling crypt, which, according to the tradition, was part of the house of St. Anne and birthplace of the Virgin.

The CHURCH OF THE HOLY SEPULCHRE lies west of the platform of the former Jewish temple, outside of what was probably the Jewish wall, and so enclosed in newer buildings that nothing is seen but its entrance, its two domes, and the stump of the XII cent. tower. It is entered through the south transept (*see Fig. 93*), the front of which is the only exposed part of the building, forming the back of a fore-court or *parvis* about 60 ft. wide by 80 ft. deep. The plain buildings each side the court contain a variety of small chapels and rooms divided among the churches which share the possession of the Holy Sepulchre—the Greek, Latin, Coptic, and Armenian. The transept front, the work of the Crusaders in the XII cent., is a squarish mass in two stories, with a double doorway below corresponding to two coupled windows above. The openings are low-pointed, with broadly moulded archivolts and triple jamb-shafts, enriched hood-mouldings, and string-courses. The tympana of the doorways are solid and carried on sculptured lintels. The style is a mixture of early French pointed and Byzantine. At the right of the doorways is a little square projecting

chapel, of the same age and style, in two stories, with outside steps and a small later dome; on the left, likewise advancing, are three stories of a square buttressed bell-tower, evidently a little later than the front, with coupled windows in the upper story, above which appear the lower courses of the destroyed belfry stage. The interior is very intricate, not only comprising three churches, or parts of churches of different periods, but confused by the effort to cover in one building many scattered shrines, and to include the various sanctuaries of the five ancient Churches which claim each a share in it. The building really consists of a circular nave, covering the sepulchre itself, a choir and transept, irregularly built about with many small chapels, and a small church or detached chapel unsymmetrically placed behind the choir (eastward). The nave is rebuilt on the foundations, and probably includes the walls, of the old nave burned out in 1808. It is a rotunda 68 ft. in diameter, called the Anastasis, supported on eighteen close-set piers and covered by a dome. The piers are faced with a huge debased order of composite pilasters with pedestals and entablature supporting a flat dome, which has an open centre or eye and its base pierced by lunettes. The surrounding aisle is in three stories, with balustraded openings into the nave, like theatre boxes. Under the middle of the dome stands the chapel of the Sepulchre itself, a little building some 26 ft. by 18 ft., with a square east front where the door is, and an apsidal end at the west, within which is the sepulchral chamber. This chapel, rebuilt at the same time with the rotunda, is decorated with a degraded Corinthian order, with much panelling of rich marbles, and enriched within and without in rococo style. Over the sepulchral chamber is a little Russian-looking cupola. The choir and transept, about 40 ft. wide, built by the Crusaders and now possessed by the Greek Church, were much less injured by the fire than the rotunda, and retain in a great degree their original form, in spite of many modern incumbrances. They make three arms of a cross, prolonged at the head in a semicircular apse which is surrounded by a tribune of seats for the presbyters, rising in tiers and covered by a semidome. Over the crossing is a hemispherical dome on a high drum, carried on pendentives and pierced by an encircling gallery with outer windows and an inner arcade. But this general disposition is much obscured to the eye, the main arches to the transept and the aisles being blocked by walls against which are built the modern stalls for the clergy. The choir thus enclosed, and called the Catholicon, is about 100 ft.



Fig. 93.—Jerusalem. Ch. of Holy Sepulchre, Transept

long. It belongs to the Greek Church exclusively, and the apsidal end, with half the bay beyond the crossing, is cut off by a huge *iconostasis* or screen, after the Greek manner, to separate the sanctuary from the rest. All the main arches here are pointed, as well as the vaults, but the gallery arcade at the base of the dome and a similar arcade round the second story of the apse are round-arched. The aisles also are two-storied, the spacious upper aisle, indeed, running round the whole church and containing several chapels. The aisle returns across the ends of the transept, cutting off at the south the last bay, the lower story of which serves as the entrance porch. It is of very irregular width, being encroached upon by the various special chapels at many points. In the S. E. angle of the choir and transept is a group of chapels in two stories covering what is considered to be the site of Calvary, comprising the Chapel of the Raising of the Cross, of the Crucifixion, and others, which crowd considerably upon the transept. The lower aisle of the rotunda also is broken up into chambers, the central one of which, behind the sepulchre, expands into a chapel belonging to the Syrian Church and leads to an excavation in the rock of the branching form peculiar to ancient Jewish rock-tombs, and known as the tomb of Joseph of Arimathea. Across the north end of the transept and the adjoining aisle lies a long gallery whose arcade, called the Seven Arches of the Virgin, is mostly obliterated by the piers of the church, and beyond this, north of the rotunda, the Chapel of the Apparition, which, like the gallery, is part of the oldest constructions. It is a plain, square building, with an apse and three altars in its eastern wall, and serves as chapel to the adjoining Latin Franciscan monastery. From the aisle that surrounds the (eastern) apse of the Greek choir open three radiating apsidal chapels, and an oblique stairway which descends some 16 ft. to a subterranean chapel dedicated to St. Helena, mother of Constantine. This is about 50 ft. square, Byzantine in style, the oldest and most unspoiled architecture now visible in the church. It is divided into nine bays, the central one domed, the surrounding ones vaulted, and is preceded by a narthex chiefly occupied by the staircase. Four columns, low and very massive, with varying bases and uniform basket capitals, support pendentives which carry the dome, resting on a drum. The drum, pierced with six windows, in lunettes which are partially blocked, rises with its dome through the pavement of the courtyard of the Abyssinian monastery which adjoins the church — the only part of the building which is seen from without. In the middle of the east wall is the main apse and altar dedicated to the saint and empress, on its left an altar to the penitent thief, and on its right a second staircase descending into an irregular cavern, consecrated as the place where Helena discovered the true cross, and called therefore the Chapel of the Invention (discovery) of the Cross. The history of the buildings is as intricate as their architecture. Archæologists have not even been agreed as to the identity of the site; but the general consensus of scholars has, on the whole, accepted it. Hadrian, we are told, wishing to obliterate the most sacred relic of the Christians, levelled up the site of the sepulchre and built a temple upon it to Venus or to Jupiter. When Constantine had established the Christian Church, and wished to recover the sepulchre, Hadrian's temple was his landmark. He recovered it, says Eusebius, and finding the sepulchre unharmed beneath, built over it a gorgeous shrine, to which he added a large and magnificent basilica. Cyril adds that he cut away about the sepulchre the rock in which it was excavated, leaving only a shell to enclose the burial-chamber, and removing even

the antechamber, levelled off the surrounding surface, and then encased the tomb in marbles. The Persians under Chosroes II., assisted by fanatical Jews, destroyed and buried the buildings in 614. Modestus, afterward patriarch of Jerusalem, immediately set to work to rebuild, not Constantine's basilica, but more modest buildings over the separate holy places. These were again destroyed in 1010 by the caliph Hakim, founder of the Druses. Directly afterward, however, he allowed them to be restored by the Greek emperors, which was accomplished in 1048. As soon as the Crusaders were fairly established in Jerusalem, it was their care to build or to rebuild a great church which should embrace all the isolated shrines that clustered about the sepulchre. This was mostly done in the first half of the XII century. The church which they built—connecting the older rotunda with the Chapel of St. Helena, and including the Calvary, the Stone of Unction, over which its south transept extends, and the various chapels which lie about these—probably remained substantially unchanged till the fire of 1808. Before this fire the rotunda was carried on twelve round columns divided into groups by pairs of square piers at the cardinal points, with three stories of arcades as at present, and was covered by a wooden conical roof open in the centre, which was the cause of the damage to this part of the church from the fire. Probably much of the old masonry is imbedded in the present piers. The falling of the cupola crushed the chapel over the sepulchre itself, and it is likely that not much of the shell of the burial chamber has survived this and the previous destructions, the Moslems under Hakim having made great efforts—which were foiled by miracle, say the historians of the church—to destroy it, both with sledge-hammers and with fire. But De Vogüé and other travellers declare that parts of the original rock can still be seen between the marbles that line the interior. The literature of the building, in all languages, is very abundant, and the theories of writers are

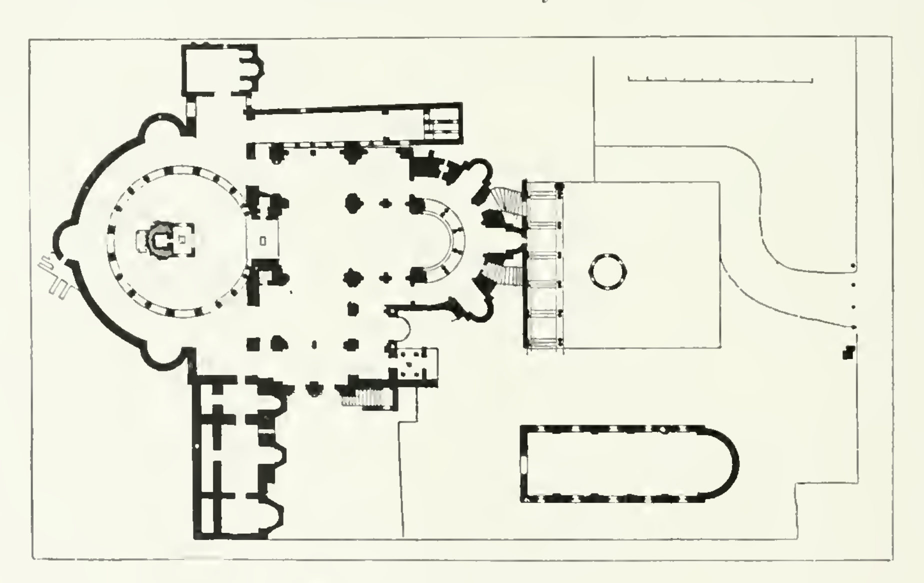


Fig 94. Jerusalem, Church of the Holy Sepulchre, Plan.
Scale of 100 feet

many. Mr. Fergusson has argued that the real sepulchre is under the building commonly known as the Dome of the Rock, or the Mosque of Omar, but the weight of authority is against him. (*See Figs. 94, 95.*)

CHURCHES OF ST. MARY LATIN and ST. MARY MAJOR. See *Hospital.*

CHURCH OF THE VIRGIN. See *Tomb of the Virgin.*

CITADEL, an irregular group of five square towers, commonly called the City of David. The substructions to a height of 39 ft. are Roman, of large drafted blocks with rough faces, inclined at an angle of about forty-five degrees. This is believed to be the Hippicus Tower described by Josephus, which was left standing by Titus when he destroyed Jerusalem. The masonry is evidently of about the Herodian time, though apparently later than that of the Temple walls.

The DOME OF THE ROCK (Kubbet es-Sakhra), popularly but incorrectly called the Mosque of Omar (see *El-Aksa*), stands on the platform which encloses the summit of Mt. Moriah in the middle of the Temple Terrace, and is believed to occupy the very site of Solomon's temple. The platform, about 450 ft. by 500 ft., is reached by flights of steps irregularly placed, leading to gates of various design, mostly groups of pointed arches in square bits of wall. The summit of the hill protrudes within the building in an uneven rock some sixty ft. across and from one to five ft. high, which is guarded by a marble screen or wall. Round this is a circular arcade resting on heavy square piers, with twelve intermediate columns in groups of three. The arcade is surrounded by two aisles, and carries a high tambour which rises above these and supports a stilted hemispherical dome about 80 ft. in outside diameter and 110 ft. or more to the top. The inner aisle is enclosed by an arcade which makes an octagon of 124 ft. in diameter, with piers at the angles and sixteen columns or piers between—the outer aisle by a solid wall pierced by pointed windows. Both aisles are included under the same rather low, lean-to roof hidden by a solid parapet ; so that from without the building appears as a low, flat-roofed octagon 160 ft. broad, out of the middle of which rises a low drum carrying a high dome. But its misproportion is to most eyes compensated for by the splendor of the coating of marble mosaic and glazed tiles which covers all the exterior. The walls of the outside octagon are divided by pilasters into panels, the upper halves of which are filled with pointed windows, except in the middle of each cardinal face, where a projecting porch covers an entrance door.



Fig. 95.—Jerusalem, Dome of Holy Sepulchre.

The drum of the dome is broken by the four great middle piers, which are continued in relief up to its cornice, while groups of windows between, in fours, make a clerestory. The decoration of the interior is extremely rich; its architecture is peculiar, and has been the subject of much controversy. The columns are apparently in great part the spoils of other buildings. They are of rich marbles with shafts, capitals, and bases of unequal height and irregular design, but all of some variation of classic Corinthian or Composite, and mostly Byzantine in character. The inner arcade is of arches very slightly pointed, resting directly on the capitals and stayed by a slender wooden tie. In the outer arcade the columns carry stilt-blocks, across which lies a heavy continuous beam carved into a semblance of a classic entablature, and upon this rest the arches, which are round. The interior wall, up to the wooden ceiling of the aisles, is clad in a mosaic casing of colored marbles; above this the drum and the dome are covered with profuse and splendid ornament of late date, painted and gilded, while the windows are filled with rich stained glass. The exposed rock is held in extreme veneration by the Moslems, who see on it the footprints of Enoch and of Mohammed, and the mark of the hand of the angel Gabriel. No place except the Kaaba of Mecca is so sacred for them as this building, and till very recently no Christian had been allowed to



Fig. 96.—Jerusalem, Dome of the Rock.

set foot in it. A cave, apparently natural, underlies a part of the rock, entered by stairs under the dome, and a small perforation in its roof communicates with the air above. Here, it is believed, is the *lapis pertusus*, the pierced rock, to which the Jews habitually came, to anoint it with their tears and ointments, during the interval when it was unclaimed by either Christian or Saracen. Much argument has been spent over the origin of the Dome of the Rock. The popular name is clearly misapplied: it nowise resembles a mosque, and there is no indication what-

ever that it was built by Omar. Mr. Fergusson stands alone in believing that it is Constantine's Church of the Holy Sepulchre: the materials from which its older parts are laboriously pieced together seem to be distinctly Byzantine. Professor Sepp sees in it a church of Sta. Sofia (the Holy Wisdom) built by Justinian; the Arab historians and traditions unanimously declare it to have been built by Abd-el-Malek, Omar's successor. It is probable that they are right, and that he built it, about 690, out of the spoils of older buildings, and by the hands of Byzantine workmen. But it has been through many alterations: the dome, destroyed by an earthquake, was rebuilt in 1022; it has since been again rebuilt. The Templars, established within the precinct of the ancient temple (see *El-Aksa*) adopted the round form of the Dome of the Rock for the churches, called temples, which they built in London and elsewhere in Europe, and many churches earlier and later, e.g., Charlemagne's at Aachen, were built in like imitation. It was purified and embellished by Saladin after the Crusaders were expelled. Soliman the Magnificent cased it in marble and tiles and filled its windows with splendid glass. Since the first Christians were allowed to enter it, accurate plans have been made by the English Ordnance Survey, and photographs taken for the Palestine Exploration Fund. (*See Fig. 96.*)

Ecce Homo Arch, or Arch of Pilate, spanning the Via Dolorosa or Way of the Cross at the convent of the Sisters of Zion, in which building one side of the arch is engaged. It is held to have been a Roman triumphal arch of the time of Hadrian, and has been very greatly ruined, restored, and more or less remodelled. It has been pointed out to pilgrims, since the XV cent., as the place where Pilate exclaimed: Behold the Man.

El-Aksa. This, the oldest mosque in the world after that built by Mahomet at Mecca, and next to that the most sacred, stands on the southern edge of the terrace of the ancient temple, the Haram es-Sherif. It is substantially a rectangle about 270 ft. long and 180 ft. wide, and has been so often built over that its first form and transformations are hard to trace; but as it stands now it has essentially the shape of a basilica with triple aisles. The nave and aisles run north and south, in order, as an old Arab historian tells us, that the mosque might front toward the Dome of the Rock (*q. v.*); the transept skirts the edge of the terrace. The front is crossed by an open vaulted porch one bay deep, with seven pointed arches corresponding to the nave and aisles, which is much later than the original mosque. The nave rises behind the central and widest opening, and is covered with a high ridge roof, but with a square frontispiece, containing a group of three windows, instead of a gable. The transepts also rise above the aisles, and at the crossing is a high dome on a drum perforated with windows. The central nave and adjoining aisle on either hand are marked off by massive piers so regular and distinct as to encourage the idea that they were the original building, in the form of an early Christian basilica. The nave walls, of seven bays, are carried on thick-set columns, with pseudo-Corinthian and composite capitals of Byzantine workmanship; these columns, which are plastered over, being apparently the shortened fragments of an earlier building. They bear slightly pointed arches, stayed by a continuous tie-beam. The wall above is pierced by two stories of round-arched windows, three to each bay, the lower range opening into the aisles, the upper serving as clerestory. A great arch with solid wall above, like the triumphal arch of a basilica, yet very slightly pointed, cuts off the nave from the crossing. The nave and two aisles, and also the transept, have timber roofs and ceilings, the transept being of later and slighter struct-

ure, with slenderer shafts and spreading capitals of basket-work in Byzantine leafage, and pointed and stilted pier-arches tied with timber. Under the nave and its eastern aisle runs a crypt or vaulted gallery of two aisles, entered from a stairway in front of the porch. The angles between the transept and the older aisles are filled out with two aisles on each side with square piers and pointed arches roughly built of old material, used with but little regard for its original purpose. These aisles are covered with groined vaulting and a terrace-roof. The interior is enriched with colored tiles, stained windows, painting and gilding, in a profusion which dissembles the roughness and crudity of the architecture. There has been great dispute on the origin of this building. Procopius describes a great basilica built by Justinian within the court of the Jewish temple, and most authorities have inferred that El-Aksa is substantially that basilica. The orientation of the building is an objection to that belief, and gives color to the theory that it was entirely the work of the Moslems, though very likely built of the fragments of Justinian's basilica, taken from another site. A small building adjoining the east transept is thought to be the original Mosque of Omar, whose name has been popularly transferred to the Dome of the Rock, and a prolongation of the west transept into a double vaulted aisle was probably added by the Templars when they used El-Aksa. The Mosque of Omar, whatever it may have been, was built by Omar directly after he had taken Jerusalem in 637. Abd-el-Malek built, or else transformed, El-Aksa near the end of the VII century. It was thrice injured by earthquakes in the VIII cent., and rebuilt with considerable transformations by El-Mahdi about 780. After Jerusalem was taken by the Crusaders, Baldwin II. gave El-Aksa, then supposed to be the remains, or the successor, of Solomon's Temple, for a residence to a brotherhood of knights sworn to the defence of the Holy City, who, established thus within the precinct of the temple, took their name of Templars. Altered by them, it was again restored by Saladin after his capture of the city in 1187. The elaborate pulpit which he brought from Aleppo is still there. Since his time the building is probably not greatly changed.

The Golden Gate (Babel-Daheriyeh) is a gateway in the north wall of the Haram (terrace of the Temple) from which steps led down toward the Valley of Jehoshaphat, or Kedron, opposite the Mount of Olives. It is a rectangular mass through which runs a double passage, divided by a range of columns and subdivided into six square bays covered with domes in Byzantine fashion. It opened at each end by a double archway, but has been walled up for centuries—by Omar, according to the Moslem tradition, which says that it will so remain till the end of the world, and then give passage for good Mussulmans to the houris of Paradise. The Christian tradition is that here Christ made his entry into Jerusalem as is described in the New Testament. The interior columns are late Ionic; those on the exterior are Corinthian, and carry a full entablature and an attic. Its peculiarity is that the whole entablature is bent round the coupled arches in the front, forming their archivolt. There has been much controversy over its age, Mr. Fergusson holding that it was the entrance to Constantine's basilica, M. de Vogüé and others that it is of Justinian's time, or later. But the carved detail is said to be distinctly of Byzantine character. This gate is not to be confounded with the Golden Gate of Solomon's Temple, destroyed with the temple.

Grotto of St. James, so-called. An extensive rock-tomb on the east side of the Kedron valley, beyond the tombs of Absalom and Jehoshaphat. The present entrance is by a long passage from the

south; but the original entrance was no doubt by the loggia 16 ft. wide of two Doric columns 7 ft. high *in antis*, opening on the vertically cut face of the rock. There is a Doric entablature over the columns, and a Hebrew inscription above the cornice. Within the loggia are six connecting chambers, three of them with loculi for dead bodies. The tomb has its name from a tradition that St. James concealed himself in it after the Crucifixion.

HARAM. See *Temple Terrace.*

HEBREW NECROPOLIS of rock-tombs, just below the city in the Kedron valley, and particularly in the neighboring valley of Hinnom. Near the village of Bet Sahur are several rock-chambers with shelves for the bodies, some of the chambers with entrance-doors, niches and arches, and some with apses. On the south side of the Hinnom valley are abundant rock-tombs, some of which were occupied by hermits in the Middle Ages and are now used as dwellings by poor families and for cattle. Some of them have portals elaborately ornamented with mouldings and pediments; one consists of two stories with a vestibule and a number of chambers with sculptured entrances; another, called the Apostles' Cavern (*q. v.*), serves as a chapel. In the midst of the tombs is a building called *Aceldama*, or building of the Field of Blood. It is 30 ft. long and 20 ft. wide; its vaults 34 ft. high are supported on massive central pillars. The lower part of this building is hewn from the rock, the upper part is built of drafted masonry. There are round openings in the flat roof through which bodies were let down. The building serves as the vestibule to a series of tomb-chambers with loculi cut in their walls.

The HOSPITAL (Muristan) adjoining the Holy Sepulchre on the south is the dilapidated remainder of the famous establishment of the Hospitallers, or Knights of St. John. It is chiefly a mass of ruins, among which may be distinguished the remains of its church of St. Mary Major. This was a small church, about 50 ft. by 110 ft. inside, with a nave and two aisles, and three apses at the east, as was usually the case with the Crusaders' churches. The principal doorway in the north aisle is still to be seen, a broad round-headed archway with shafted jambs, and two sub-arches of which the dividing column has disappeared. The heavy moulded archivolt is carved with figures which personify the calendar months, above which is a string-course with carved corbel-table. The rest of the outside is concealed by abutting buildings, and the interior is waste. On the south is a cloister rebuilt by the Arabs, against which is a hall which serves for the German Protestant chapel. Among the houses northward, between St. Mary's and the Chapel of St. Helena, are the remains of St. Mary Latin (*see Fig. 94*), a nave of five bays and eastern apse, originally attached to the same foundation. Charlemagne, favored by his friend Haroun el-Raschid, founded a convent here for the assistance of pilgrims, of which the pilgrim Bernard the Wise wrote in the IX century: "We were received into the Hospice of the glorious Emperor Charles, where are entertained all those who, for devotion's sake, come to this place and who speak the Latin tongue." Two centuries later (1048) a company of merchants from Amalfi, established at Jerusalem, built a larger hospice attached to a Benedictine convent, in which were established two communities, monks and nuns, and of which St. Mary Latin was probably the chapel. A prior named Gerard, who was in charge when the Crusaders captured the city, established the brotherhood of St. John, which, as it grew, detached itself from the convent, built the great hospital, and finally became a military order. The eastern half

of the Muristan, containing St. Mary Major, was given by the Sultan to Prussia in 1879, when the Crown Prince visited Constantinople. The Germans propose to rebuild the church.

The Kubbet es-Silseleh, standing before the east door of the Dome of the Rock, is a picturesque little open pavilion. Six columns and arches bear a hexagonal drum and round dome; about them is an open arcade of twice as many columns with an aisle-roof. The columns are Byzantine, taken from older buildings; the arches round, the archivolts, spandrels, and floor of marble, decorated with mosaic; the low drum covered outside with tiles. The name signifies Dome of the Chain, and alludes to the chain stretched by Solomon, according to Moslem tradition, across the opposite door of the Dome of the Rock.

Mosque of El-Aksa. See *El-Aksa*.

Mosque of Mussulman Dervishes. See *St. Peter's Church*.

Mosque of Omar. See *Dome of the Rock*, also *El-Aksa*.

Muristan. See *Hospital*.

Pyramid of Zacharias, a rock-tomb of similar type to the Tomb of Absalom, in the range on the east side of the Kedron Valley. The square base almost repeats that of the Tomb of Absalom; it has pilasters at the angles, with quarter Ionic columns engaged as antæ, and two engaged Ionic columns on every face. There is a plain architrave upon the columns, then the typical Egyptian cornice, and the whole is crowned by a quadrangular pyramid. The entire monument is hewn from the solid rock, is isolated like the Tomb of Absalom by a trench cut vertically in the rock-slope of the hill, and is of the same date. The door has not been discovered. The base is about 16 ft. square, and the total height 29 ft.

St. Peter's Church, or Mosque of the Mussulman Dervishes, is a little church about 40 ft. by 70 ft. inside. It consists of a nave and aisles of three bays, each ending eastward in an apse. The bays of the nave are square, those of the aisles oblong, and all covered with groined vaulting on cross ribs. The piers are square, with only moulded imposts for capitals, and plain bases, but with small nook-shafts at the angles. The aisle-vaults spring from corbels against the side walls. Built in with other buildings, the chapel has no exterior. Its history is uncertain; De Vogüé assigns it to the first half of the XII century. Its use as a mosque has preserved it in unusually good condition.

The Temple Terrace (Haram es-Sherîf). It is not doubted that the site of the Temple of the Jews was the great terrace that encloses the summit of Mount Moriah at the S. E. corner of Jerusalem. This is an irregular quadrangle more than a quarter of a mile long from north to south, and two-thirds as long from east to west, levelled up on high walls which follow the undulations of the rocky hill-side and against which, on the north and west, abut the buildings of the city; while on the east is the Valley of Jehoshaphat and the brook Kedron, and on the south the Valley of Hinnom. The S. E. corner of the terrace stands more than 150 ft. above the surface of the rock and rests on enormous vaulted galleries, but half its height is covered by the débris which has accumulated at its foot. The south side of the terrace is occupied by the Mosque of El-Aksa (*q. v.*), beside which is the Triple Gate; on the east side is the famous Golden Gate (*q. v.*), while the north and west sides are skirted by a row of small buildings broken by various gates leading from the town. In the middle is a platform rising some 16 ft. above the terrace, which an unbroken Jewish tradition holds to be the platform of the Temple itself. In this most modern authorities concur. This platform, which encloses the summit of Mount Moriah (see *Dome of the Rock*) is about 450 ft. by 500

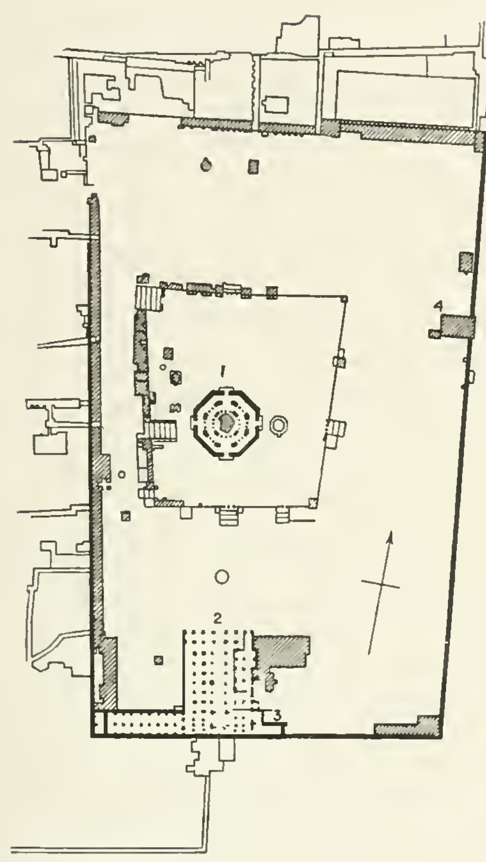


Fig. 97.—Jerusalem, Temple Terrace.
1. Dome of the Rock. 2. Mosque El-Aksa.
3 Mosque of Omar (probably). 4 Golden Gate.

ft., and is reached by eight flights of steps. (*See Fig. 97.*)

Solomon's temple, burned in 588 B.C., when Jerusalem was taken by the Chaldæans, was restored by Zerubbabel on about the same plan as the original, but with much less richness, and remained until Herod undertook its complete reconstruction with a view of renewing the splendor of Solomon. This with its accessory porticoes and other constructions was finished under the reign of Nero, and was destroyed by the soldiers of Titus, A.D. 70, after the memorable and tragic siege. The masonry of huge stones which forms the substruction of much of the wall is commonly believed to be the work of Solomon or of Herod, but it has been subsequently overbuilt by Roman emperors, Crusaders, and Turks. The site of the Temple, despised and even defiled by Christians in the first centuries after Christ, was, we are told, occupied by Hadrian with a temple; later, Justinian built on it a magnificent basilica, which was destroyed by the Persian king Chosroes, 614 A.D. Since the conquest of Jerusalem by Omar, 637 A.D., it has been held peculiarly sacred by the Moslems, and the upper platform, through which the summit of Mount Moriah projected, is occupied by their cherished sanctuary the Dome of the Rock (*q. v.*). Of the structure of Herod considerable portions remain in the lower part of the walls, which are in great blocks, from 3 ft. to 6 ft. high, and 3 ft. to 23 ft. long (one block at the S. W. is about 40 ft. long), well jointed, and with a shallow draft around the edges. Next over this come stretches of Roman masonry in smoothed blocks about 3 ft. long, with no draft—doubtless of the time of Hadrian. Above these the often repaired walls are of various dates, but chiefly Moslem. A stretch of the ancient Herodian wall, 156 ft. long and 56 ft. high, on the west side, not far from the S. W. angle, is the Wall of Lamentations, where the Jews resort every Friday to weep over the destruction of Jerusalem. The nine lowest courses are of huge drafted blocks. Close by the S. W. angle are the abutments of Herod's bridge over the Tyropœon ravines. An English excavation here has laid bare a street pavement anterior to Herod, and below the pavement has been found part of the arch of a bridge in enormous stones, buried beneath the accumulation of ages, and perhaps contemporaneous with Solomon. On the platform are two cisterns, which, though often restored, may be of the time of Solomon. One is beneath the Sakra rock, the original core of Mount Moriah, the other

is before the Mosque El-Aksa. The latter cistern is a noteworthy structure, with its roof supported on pillars of rock; it is over 40 ft. deep, and about 740 ft. in circumference. At the N. W. corner of the Haram es-Sherif, on the site of the present barracks, was founded at the time of the Maccabees, on the rock which here projected above the level of the platform, a strong, defensive tower called Baris. This was altered and enlarged by Herod, and became the noted citadel called Antonia. The Temple was thus at once the chief sanctuary, market, and fortress of the Jews.

Tomb of Absalom, so called, in the Valley of the Kedron, below the Temple. It consists of a cubical rock-hewn base about 20 ft. each way, isolated by a trench about 8 ft. wide cut vertically in the rock of the Mount of Olives, with a square attic of large stones over the Egyptian cornice of the base, upon this a circular drum, and finally a concave conical spire rising from a cable-moulding at the top of the drum and ending in a finial like a tulip-flower. The height of the whole above the present surface is 47 ft. At the corners of the base are cut pilasters with quarter Ionic columns engaged on the inner sides as antæ, and two engaged Ionic semi-columns *in antis* on every face. Upon columns and antæ rests an architrave, above which is a Doric triglyph-frieze of late form, then a large torus, and upon this the Egyptian hollow cornice which has been mentioned. A hole has been broken into the interior chamber on one side by treasure-seekers. There is a door high up on the south side, from which a stair leads down within. The interior is ornamented with arcades. Despite the traditional attribution of this tomb, which is defended by De Saulcy, it is evident from its architecture that it dates from a time when the Greek types had become profoundly debased by Roman influence, and is doubtless later than the foundation of the Empire. With such classical elements of the decadence are combined, in this curious monument, the Phœnician elements characteristic of the region.

Tomb of Jehoshaphat, so called, in the rock of the Mount of Olives, on the east side of the valley of the Kedron beyond the Tomb of Absalom. It has a broad entrance surmounted by a sort of pediment, and six rectangular interior chambers, some with niches, some without, communicating by narrow passages.

Tombs of the Judges, or of the Prophets, beyond the Tombs of the Kings, north of Jerusalem. They include three rock-cut chambers, with a number of subordinate cells, all cut with many loculi, graves, and niches.

Tombs of the Kings, north of the city. From a large, square rock-cut open vestibule a passage leads to a court 90 ft. by 81 ft., containing a cistern. On the west side lies the portal of the tombs proper, which formerly had two columns, now removed. It is ornamented with sculptured wreaths, fruit, and foliage. In the vestibule is a small round cistern to which descends a flight of steps. A low passage from the vestibule leads into a chamber 19 ft. square, from three sides of which open tomb-chambers with rock-shelves and loculi. In one of these chambers was found a richly decorated sarcophagus now in the Louvre. The Jews call this elaborate burial-place the Tomb of Zedekiah; it is probable that it is in fact the tomb of Queen Helena of Adiabene, which is referred to by Josephus.

The Tomb of the Virgin and its church lie in the Valley of the Kedron, or of Jehoshaphat, close by the Garden of Gethsemane, under the walls of the terrace of the temple. The soil, which has filled the bottom of the valley to a depth of 30 or 40 ft., has completely buried the church, which is now subterranean. A small cubical porch about 25 ft. square, the only part above ground, covers the

entrance. Its doorway is a double concentric pointed arch, flanked by five Gothic columns. The inner arch is blocked by a wall, added for defence, which reduces the door to the smallest limits. From here a broad flight of steps leads down 35 ft. to the church itself, which is a single nave about 60 ft. long, east and west, and 21 ft. wide. It is partly groined and partly barrel-vaulted, and has an apse at each end, the entrance being at the south arm of a short transept near the west end. The eastern apse is the choir of the Greeks, and in front of it is the tomb, an isolated square marble chapel which is said to enclose the sepulchral cave in which the body of the Virgin lay from her death to her assumption. The Abyssinian Church has its altar before the western apse; the Armenians have built one against the tomb; the Moslems have a prayer-niche in the south wall. The architecture is as simple as possible, without any features except a row of windows which once lighted the church, but are now completely blocked by the accumulated earth outside. Two small chapels opening out to right and left on the entrance stairway are called the tombs of the Virgin's parents and of St. Joseph. Near by, but entered from outside, is a cave in the rock, believed to be the scene of Christ's agony on the night of his apprehension. A church on this spot is mentioned by John of Damascus as early as the v cent., but the tradition that it was built by the Empress Helena is unsupported. It is often spoken of by later pilgrims, and was ruined or fell into decay. Godfrey of Bouillon founded a Clunisian (Benedictine) monastery here directly after his establishment at Jerusalem, and the present church was probably built for that monastery.

JESI, near Ancona, Italy.

The brick church of S. Marco is in the fine late Romanesque vaulted style of the XIII or early XIV cent., with an admixture of pointed elements. The nave consists of four square bays and measures about 150 ft. by 55 ft. The eight low pointed arches are supported on octagonal piers, and two square bays in the side aisles correspond to each bay of the nave. All the vaults are ribbed with a simple torus moulding. In the façade is a large rose window with a double band of decoration, the inner being a combination of sculpture and circles of majolica. The one large round-headed doorway has heavy twisted colonnettes and mouldings. This church is important for the history of architecture in the Marches of Ancona. [A. L. F., Jr.]

KALAT EL-MUDIK. See *Apameia.*

KALAT SIMAN, Northern Syria.

The great church of St. Simeon Stylites was the largest and most important in central Syria. It is recognizably described by the historian Evagrius, a century after the saint's death in 459, and De Vogüé ascribes it to the latter half of the v century. The pillar on which St. Simeon had passed his later years was made the centre of an open octagon or *hypæthrum*, from which the four arms of the church radiated east, west, north, and south. Though the church is ruined, enough of it still stands to show its whole form and structure. The arms were like so many basilicas, with nave and aisles separated by arcades of seven bays (except the eastern, which was longer) carrying a clerestory, and ending in an open porch or colonnaded portico. The eastern arm, lengthened to ten bays, ends in three windowed apses, being perhaps the earliest known example of a triapsal church. The whole length of the church east and west is 336 ft., north and south 300 ft. The central octagon is inscribed in a circle of 100 ft. radius; the naves are 36 ft. wide, the aisles 18 ft. The columns, standing on pedestals, are 21 ft. high, and the whole walls 49 ft. While the four naves abut against the four cardinal sides of the

octagon, the aisles are continued along its diagonal sides, connecting the four arms, and small apses are set in the angles between them. Each face of the octagon opens in a great arch flanked by two detached columns, so as to give from all parts a clear view of the central column. The clerestory was a continuous row of round-arched windows, between which stood a series of colonnettes on corbels, carrying other corbels that supported the roof-trusses. There is no indication of any roof gables, so that apparently the upper cornices were horizontal throughout, and the roofs of the naves seem to have been hipped. The main apse, which is large, and as high as the nave, is decorated without by two ranges of applied columns, separated only by corbels, the upper range carrying an arched corbel-table which bears the main cornice. In front of the south arm of the cross, where the main entrance is, there is a striking open porch, or narthex, opening with three broad arches, the middle one very broad, which are surmounted by gables. Four doors lead from this porch into the church, two of them into the nave. Above it the clerestory is returned across the front of the nave, ending apparently like the rest in a horizontal cornice. This church has been cited as the first instance of the cruciform type of church which afterward pervaded Europe, but it is to be noted that it is not so much a single church as a collection of four naves about an open centre, the occasion of which, the sacred pillar at that centre, was the focus of observation from every side, and that the arms were divided from each other by this main object of interest, while the service, here apparently secondary to the adoration of the pillar, appears to have been held only in the eastern arm, where the apses were. It seems to have remained absolutely without imitation in the East, while the cruciform type was developed in the West. The architectural details, however, here as elsewhere in central Syria, are curiously suggestive of forms that were used later in Romanesque architecture, especially in the south of France. (*See Fig. 98.*)

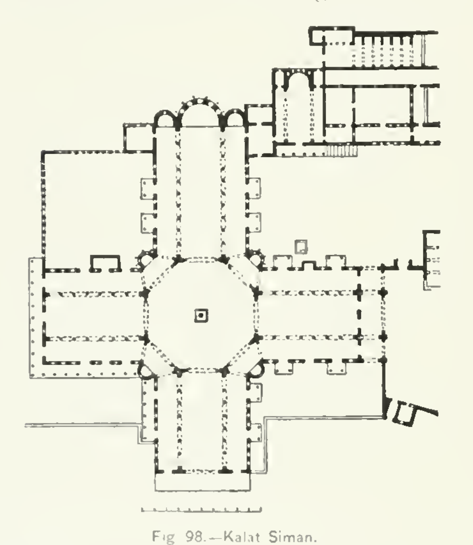


Fig. 98.—Kalat Siman.

In the century after St. Simeon's death his reputation grew enormously; the crowd of followers who had gathered about him in his lifetime increased to a considerable community. The large group of buildings which is enclosed within the same surrounding wall with the church, is doubtless a convent annexed to it. In it are found a small basilica, as for private services, cloistered courts, and the various rooms necessary to such an establishment.

At the foot of the hill where St. Simeon stands, is an interesting group of buildings now called Der Siman, or Simeon's Convent. The principal buildings, gabled and unroofed, are surrounded by porticoes in two or three stories, built of large monolithic pilasters and beams, and now standing disconnected. One house is connected by a stone trestle-bridge with higher ground adjoining it. The road that leads up to the church is spanned by a triumphal arch of peculiar form. It is a single wall, pierced by an arch of about

24 ft. span and nearly the same height. The deep voussoirs bear on columns detached in the line of the wall, and the piers are stayed by lateral buttresses which give them the shape of a T in plan, and which, ending in colonnettes, receive the corbelled cornice that crowns the whole arch.

KALB LUZEH, Northern Syria.

The CHURCH, which is ascribed to the VI cent., is much like that at Ruweiha in plan, though somewhat smaller, without its cross-arches, and richer in detail. It is about 55 ft. by 115 ft., consisting of a nave and aisles with projecting eastern apse, and an open narthex between two square towers at the front. The nave, 25 ft. by 85 ft., is separated from each aisle by an arcade of three broad arches carried on low wide piers. The choir, raised some four feet, ends in the large domed apse faced by a heavy sculptured archivolt. Over the main arcades is a clerestory of many small windows, nearly square, between which were ranges of colonnettes, resting on corbels and bearing other corbels that supported the trusses of the gabled roof. The porch was entered through a very broad low arch, like those that line the nave, and the apse was decorated on the outside with two stories of engaged colonnettes separated only by corbels, and supporting a heavy corbelled cornice. The church is ruined, but all its principal features survive. Its massive detail is set off by abundant decorative sculpture of great spirit and richness, and its design anticipates in a singular way many of the characteristic features of western Romanesque architecture. (*See Figs. 99, 100.*)

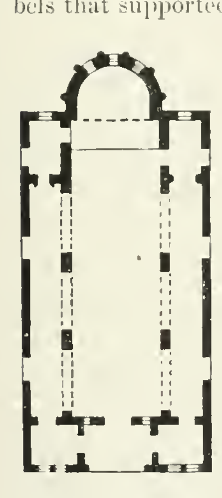


Fig 99.—Kalb Luzeh, Church, from de Vogüé's Syrie Centrale.
Scale of 50 feet.



Fig. 100.—Kalb Luzeh, Church.

KANAWAT (anc. Maximianopolis), Hauran, Syria.

The BASILICA was a building of the Roman type rather than the Syrian, the aisle being continued across the ends of the nave, where it had a second story as in Sta. Agnese at Rome. The lateral arcades were in five bays, the arches resting directly on the capitals of the very plain columns, which stood on pedestals, and the middle arch on each side being considerably wider than the others. There was a single round projecting eastern apse, flanked in the eastern fashion by the prothesis and diaconicon. The original roof was of wood, but was replaced in later alterations in the usual Syrian fashion by one of stone slabs resting on cross-arches, which were added, imbedding the columns. In front was an open atrium arcaded on all sides like the nave, and before

this an open portico or narthex, supported on an order of larger and richer composite columns. Adjoining this basilica is a smaller one at right angles to it, built into the body of an older building at the same time, apparently, that the alterations were made in the larger church. It is of the ordinary Syrian type with cross arches carried on piers. In against its side is another open arcaded narthex, remaining from the older building, with the entablature bent over the central arch, as at Spalato and Damascus. The alterations probably date from the V cent.; the older buildings can hardly be older than Diocletian. The smaller and newer basilica is duly oriented; the axis of the older is north and south.

TEMPLE OF HELIOS (the Sun), outside of the town, on an elevation in the middle of the valley. It stands on a basement 10 ft. high, with a flight of steps in front. It is Corinthian, peripteral, hexastyle, with eight columns on the flanks. There is an interior range of columns before the portal. The columns, ten of which remain standing, are about 25 ft. high and rest on pedestals 4½ ft. high. The plan measures about 46 ft. by 64 ft. The style and execution are excellent, and testify to early Roman date.

TEMPLE OF JUPITER, in the southern part of the town, in plan about 98 ft. by 46 ft., prostyle, with four great columns about 32 ft. high, and two smaller interior columns *in antis* before the portal in the pronaos. In the back wall there were two niches, one over the other. The temple is of good style and early Roman date. Its attribution is shown by inscriptions on the bases of the columns. Near this temple, remains of statues, etc., seem to indicate a hippodrome.

Roman THEATRE, without the walls, on the right bank of the brook. It is almost entirely hewn from the rock, and is about 63 ft. in diameter, with nine tiers of seats, the lowest raised 4½ ft. above the orchestra. There is a cistern (?) in the middle of the orchestra. Besides the usual entrances at the sides of the stage, it is described as having an entrance in the middle of the proscenium.

A great part of the circuit of the Roman WALLS survives, with numerous square towers. A number of paved streets can be followed, and many remain of the stone houses of the Hauran, with their stone doors and windows. There is a small temple, or nymphæum, over a spring, a circular tower 27 ft. in diameter, perhaps a mausoleum, both these without the town, and abundant remains of public buildings, with sculpture and columns, besides pre-Roman ruins of towers and walls in very massive masonry, and a beautiful ancient aqueduct.

KASR RABBA. See *Bêt el-Karm*.

KATARA. See *Balboura*.

KHIRBET HASS, Syria.

MONUMENT OF DIOGENES, of the IV century A.D. The substructure is cubical, with a decorated portal preceded by a porch. The second story is also cubical, with a peristyle; and the monument is crowned by a pyramid. There are many other interesting tombs in the necropolis of Khirbet Hass, some vaulted, others cut in the rock. Two are entered by descending inclined planes. There are also interesting groups of well-preserved domestic and ecclesiastical buildings, including two churches, all substantially like those that remain at El-Bara (*q. v.*).

KIRJATH JEARIM. See *Abu-Gosh*.

KODJA YAILEH. See *Melassa*.

KREMNA (Germe), Pisidia, Asia Minor.

The ancient remains comprise a theatre, temples, a colonnade, and the ruins of a triumphal arch, all of comparatively late date. It is the architecture of a period of decadence, pretentious and heavy, but of interest and importance as illustrating the falling away of Hellenic types from earlier ideals, and the modifications introduced by the Greco-Roman architects under the Empire.

CONSTANTINOPLE—MOSQUE OF SULEIMAN







KROTONA. See *Cotrona.*

LABRANDA, Caria, Asia Minor.

Temple (of Zeus ?). It is Corinthian, peripteral, hexastyle, with eleven columns on the flanks. The height of the columns is nine and a half diameters; in some of their flutes are left small fillets, which are inscribed with the names of benefactors. The frieze is convex, the cyma ornamented with lion-heads. The cella had two columns *in antis* in both pronaos and opisthodomos. Sixteen columns remain standing with part of their entablature; those on the south side are unfluted, and the details of architrave and frieze unfinished, showing that the temple was never completed. The columns have square plinths, the stylobate is buried in débris. The material is white marble.

LANCIANO (anc. Anxanum), Italy.

The Bridge is ascribed to the III cent., and called Diocletian's, but was rebuilt at the beginning of the XIII. On it stands the chapel of S. M. del Ponte, rebuilt at the same time, in Gothic style, but dating from the XI century.

S. Giovanni in Venere, a ruined church near the town, is a basilica with transept and crypt, believed to date from Justinian's time, and once adjoined to a Benedictine monastery. The sculptured façade of brick and stone probably belongs to the XII cent., with alterations of the XIII.

Sta. Maria Maggiore, consecrated in 1227, has a brick and stone horizontal-topped façade, with a handsome wheel window, the doorway and windows decorated with twisted shafts and carved detail partly Lombard Romanesque, partly Norman. The façade, one aisle, and tower are original, the rest modernized.

LAODICEA AD LYCUM (Eski Hissar), Asia Minor.

Odeum, north of the Stadium, partly excavated from a hill-side, and fronting south. The exterior diameter is 137 ft., that of the orchestra, 77 ft. Pococke saw but eight tiers of seats, but thought there must have been at least twenty. The back wall of the stage, now in ruins, had three doorways, the middle one 20 ft. wide, those on the sides 12 ft. wide; between the doorways and on each side, on pedestals about 6 ft. high, were coupled composite columns. The marble remains and sculptures show that the building was highly adorned.

Stadium, or Hippodrome, excavated from the side of the hill at the south end of the city. It was built 79–82 a.d., according to an inscription. It was about 1,000 ft. long and rounded at each end, where there was an arched entrance 11 ft. wide. Of the seats, twenty-three tiers remained in Chandler's time.

Theatre, excavated in the side of a steep hill. The plan embraces a little more than a semicircle; the exterior diameter is 364 ft.; that of the orchestra, 136 ft., the distance from the stage to the outer wall of the cavea is 223 ft.; the length of the stage structure about 143 ft. The seats are divided by a precinction or horizontal corridor about 10 ft. wide into two ranges, the lower of twenty-two tiers, the upper of twenty-six. The back wall of the stage was elaborately decorated; its columns were Ionic of unusual design, like some in the Zeus temple at Aizanoi, their bells bearing acanthus leaves beneath the volutes.

There is an ancient colonnaded street, extending both within and without the walls of the city, also an interesting aqueduct consisting in part of arches of small stones, in part of cylindrical stone pipes laid on the surface of the ground, and an extensive necropolis.

LAODICEA AD MARE. See *Latakia.*

LA RICCIA. See *Ariccia.*

LATAKIA (Ladikiyeh, anc. Laodicea ad Mare), Syria.

The Tetrapyle Arch, a four-faced triumphal arch, is due perhaps to Septimius Severus, who did much to beautify

Laodicea. It spanned two cross-roads, and is a mass of cut stonework about 40 ft. square and considerably higher. It is pierced by two archways at right angles, and on the principal front the arch, higher than the others, is flanked by engaged Corinthian columns. These carry a full entablature, which bears a pediment, and is continued round all four sides. An attic above it was decorated with reliefs. The interior is covered by a dome resting on an octagonal cornice, which is supported over the angles by triangular pendentives.

LECCE, Italy.

SS. Niccolò e Cataldo, an interesting Romanesque church of the xii cent., rectangular in plan, consisting simply of nave and aisles separated by five pointed arches on each side springing from square piers with a half column on each face. The aisles are divided into square groined bays by transverse arches with responds on the aisle walls. The middle bay of the nave is covered by a lantern and elliptical dome, the others by a slightly pointed barrel-vault. The middle bays of the aisles form a transept, and show without in high transverse gabled roofs. The front was modernized in 1494 with the exception of the doorway. The walls of aisles and clerestory have flat pilaster-strips, ending in arched corbel-tables. The central lantern, of conspicuously Byzantine character, elliptical within, is externally octagonal with angle-shafts carrying a decorated round archivolt on each face with a round window, and crowned with a plain octagonal dome. The church was part of a monastery founded by Tancred in 1180, and replaced an earlier church.

LEGHORN (Livorno), Italy.

The Cathedral is a Renaissance church built about the end of the xvi cent. from the designs of Alessandro Pieroni, called a pupil of Vasari. It has a nave about 50 ft. wide without aisles, covered by a flat wooden ceiling, the walls broken by an order of pilasters with six intervals, each with a large window. Flanking the easternmost bay are two chapels with domed ceilings forming a transept externally, but closed within by the walls of the nave. There is a small rectangular choir ending in a round apse. The front has an arcaded and vaulted portico of coupled columns by Inigo Jones, forming a portion of the arcades of the public square on which the church stands. Three doorways under this portico give entrance to the nave.

LESINA, Dalmatia.

The Cathedral and its campanile date from the xvi cent.; the choir may be older. The façade, imitated from the duomo of Sebenico, has a semicircular gable with a quadrant on each side closing the aisles. There is a Renaissance doorway with sculptured tympanum, apparently older than the rest. It is a three-aisled church, the nave modernized and stuccoed. The choir has some carved walnut stalls of the xv cent., and at each side of its entrance stands an octagonal stone pulpit on columns of Venetian Gothic, and a stone lectern.

LIVORNO. See *Leghorn*.

LOCRI (anc. Lokroi), near Gerace, Italy.

Temple of Persephone (?) (Proserpine). Nothing remains *in situ* of this important Greek temple except parts of the foundations, which were discovered by Petersen in 1889; but excavation has yielded material for a practically complete restoration, as well as of that of a much older temple on the same site, and has given important data for the character of the early Ionic order of the temple and its plastic decoration. The stylobate, measured on the uppermost step, is 57 ft. by 143 ft.; the cella, 65 ft. by 26 ft. The temple was a peripteros of six columns by seventeen on a stylobate of three steps, with two columns *in antis* in both pronaos and opisthodomos, and dated from about the middle of the v century b.c. The bases of the columns with round

plinths were carved in one piece with the lowest drums. They are very like those of the Heræum at Samos. The lower diameter of the shafts, which had twenty-four shallow flutes, was 3 ft. 7 in. Their height, including the capital, is reckoned at 29 ft. The shafts ended above in a beautiful though archaic anthemion moulding and a plain astragal. The volutes of the capitals are very simple, and close in type to those of the Heræum of Samos. There are traces of red color on the columns. The water-channels of the cornice bore the usual lion-heads. Remains have been found of the sculptures of the western pediment, the chief pieces being: a triton, a horse, the torso of a youth, and a headless female figure, in Parian marble and of excellent design.

The older temple occupied the same site as its successor, with the east end of which its east end almost coincided, except for some difference in orientation. The entrance portico projects so much that there may have been a second range of columns in it; though it is more likely that the ceiling and superstructure were entirely of wood. The pronaos had columns, no doubt two, *in antis*. The structure of the foundations gives indication that the simple cella *in antis* was the original temple, and very old, perhaps almost contemporaneous with the foundation of the city early in the VII century B.C. The peristyle was much later, perhaps not much earlier than the reconstruction of the V century. Some remains were found of sheathing-plates in terra-cotta painted with braids and leaf-ornaments in black, dark red, and yellow, of archaic design. Koldewey conjectures that both new and old temples were heptastyle, and that their cellas had a central range of columns. The new temple, except for its greater length, would thus practically reproduce the old, and both would then resemble the so-called Basilica at Pæstum, and the early temple at Neandria, a class which may have had more examples in the ancient Greek world than has hitherto been recognized.

LORETO, Italy.

Chiesa della Sta. Casa. The present imposing church is the result of successive enlargements and rebuildings of the church which was built in the early years of the XIV cent. over the House of the Virgin, transported miraculously from Nazareth and set down on the shore of the Adriatic. Its plan is a Latin cross about 330 ft. long and 235 ft. wide across



Fig. 101.—Loreto, Church of Santa Casa.

the transept. The original church was Gothic, and the Gothic forms are still preserved in the nave and aisles, which are separated by arcades of six pointed arches on each side springing from square piers with foliage capitals and stilt-blocks. The bays of the nave and aisles are groined, and in the outer wall of each aisle bay is a rectangular altar-niche. The crossing is covered by a high octagonal dome raised on a drum, about 60 ft. in diameter, supported by eight massive piers, which are joined by round arches higher and broader in the four cardinal faces than in the others. The faces of the drum are pierced by square-headed windows enclosed in heavy moulded architraves and pediment caps, and the whole treatment of this central portion of the church is in the style of the XVI cent. Renaissance. The plan of the eastern half is very elaborate, the central octagon is surrounded by aisle bays, and the transept and choir are flanked by aisles, and all have apsidal ends. In each external angle of the cross is a turret. The Holy House, for the protection of which the church was built, occupies a position under the central dome. It is a brick building about 16 ft. wide and 30 ft. long internally, and about 13 ft. high, enclosed within a very splendid marble casing about 28 ft. high, designed by Bramante, or, as some say, by Sansovino, who executed it, with coupled Corinthian columns standing on pedestals and carrying an entablature and balustrade, the intervals filled with panels charged with bas-reliefs and statues in niches by Sansovino, John of Bologna, and other masters. The house is entered by bronze doors executed by Girolamo Lombardo. In the exterior, Gothic and Renaissance forms are mingled. The central dome and the façade are wholly Renaissance, the former the work of San Gallo and Bramante, and occupying the greater part of the XVI cent. in building—the bold and picturesque front by Calcagni, finished in 1587. The façade, in two stories, is divided by coupled Corinthian pilasters into three compartments, each containing in the lower story a richly decorated doorway. The upper story, with only the breadth of the nave, is covered by a pediment and connected by broad scrolls with the cornice of the order below. At the north angle of the façade is a detached bell-tower with four stories of pilasters and columns crowned by a bulbous spire, the upper part added by Vanvitelli. (*See Figs. 101, 102.*)

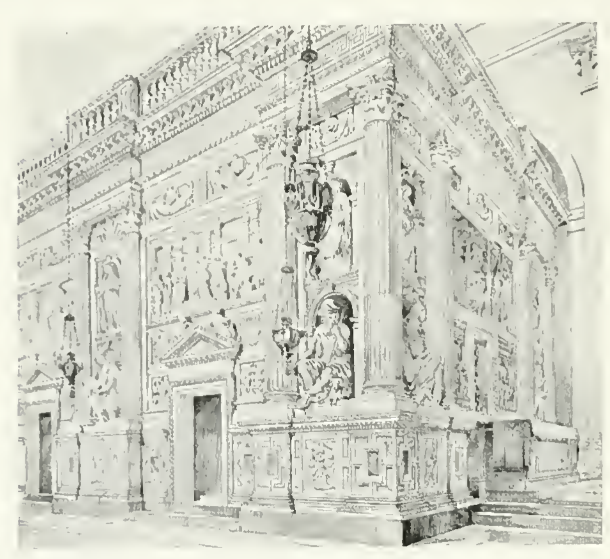


Fig. 102.—Loreto, Santa Casa.

LUCCA (anc. Luca), Etruria, Italy.

Roman AMPHITHEATRE, still surviving to a sufficient extent to fix its plan and dimensions, though its interior area is now occupied by the Piazza del Mercato. Portions are visible of the exterior walls, particularly in the N. E. quadrant and about the chief entrance, which is at the eastern extremity of the long axis. The

exterior facing consisted of two tiers, each of fifty-four arches framed by columns. The level of the arena is 11 ft. below the present surface of the piazza. It is estimated that the amphitheatre could receive nearly eleven thousand spectators. The date is late in the first cent. A.D. or early in the second. The exterior axes are 400 ft. and 310 ft.; those of the arena 258 ft. and 172 ft. The height of the exterior wall was 48 ft.

The CATHEDRAL (S. Martino) is a very ancient Lombard church which has undergone important changes at various times. It is cruciform, some 275 ft. long and 140 ft. across the transept, with a nave about 30 ft. wide and aisles 22 ft.: nave-piers composed of four pilaster-faces with octagonal shafts in the angles, high pedestal-like bases and large foliated capitals. The pilaster toward the nave is carried up through the triforium and clerestory to take the spring of the transverse arches across the nave. The nine nave-arches are round except the easternmost, without mouldings; and above them is a triforium, opening from the nave by two round arches to each bay, each arch divided into three lights with Gothic tracery in the heads. Above is a small rose in each bay under the pointed arch of the vault. The aisles are lighted by lancet windows high in the wall. The transept has an eastern aisle with two bays in each arm and clerestory as in the nave, but with pointed arches. The nave-arches, with the wall of the triforium and clerestory, are continued across the transept on either side. The choir ends in a high round apse. The pavement of the nave has an inlay of colored marbles, representing the Judgment of Solomon. The exterior is of unusual interest. The façade, rebuilt in 1204, but of which the details are substantially those of the old front, resembles in style the cathedral of Pisa, but is treated with greater breadth and richness of decoration, though with less elegance of proportion and detail. It is in four stages, banded in white and black marble, of which the first consists of an open vestibule or loggia with three great round arches springing from compound piers and surrounded with moulded and decorated archivolts. Within the vestibule the wall is panelled by pilasters and blind arches, three of which contain entrance doorways with bas-reliefs in the tympana. That over the left-hand door is a Deposition by Niccolo Pisano, dating from 1233. The upper stages consist of arcades on columns extending the whole breadth of the front and crouching beneath the sloping eaves of the aisles. The columns are of varied design, the shafts plain, twisted, coupled or covered with sculpture in relief; and the spandrels are charged with an inlay of black and white marble representing hunting scenes with men and animals in vigorous action. Round-arched windows in each of these galleries, half hidden behind the columns, give light to the interior. The upper gallery covers only the breadth of the nave. A tall square campanile rises from the south angle of the front with a battlemented top and with its many stories separated by strong arched corbel-tables, under which are narrow round-headed windows increasing in number with each story. The sides of the church are elegant in design. The interior bays are indicated by flat panelled buttresses, terminating in gabled niches. Each bay contains a blind arch, under which is a gabled lancet window and above it a blind arcade with a cornice and pierced balustrade. The wall is everywhere banded with courses of black marble. The aisle roofs are flat, and above them the clerestory wall is ornamented with a blind arcade on columns and a rose window in each bay. The east end is also noteworthy. It has a blind arcade enclosing broad round-arched windows, and above this an open arcaded gallery with smaller arches and

detached columns crowned by a decorated cornice. This treatment is continued around the apse. The church appears to have been founded about the middle of the VI cent. and destroyed by war not long after. It was rebuilt, and after becoming ruinous was again restored from 1050 to 1070, being consecrated in the latter year. The front was rebuilt in 1204 by Giudetto, the transept and perhaps the apse from 1308 to 1320. (*See Fig. 103.*)



Fig. 103.—Lucca, Cathedral

PALAZZO GUINIGI, a Gothic palace, interesting for the simplicity and elegance of its design, and its perfect preservation. It has two façades of brick and terra-cotta, of which the larger is about 85 ft. long. The first story is an arcade of round arches, nearly 15 ft. broad, springing from low plain square piers of cut stone; the entrance arch being distinguished from the others by slightly increased height and additional mouldings. The two upper stories consist of brick arcades, enclosing each a group of four narrow pointed and cusped openings divided by slender shafts with foliated capitals and surrounded by an archivolt decorated with ball-flowers. Beneath the string-courses are ranged singular round openings or *oculi*, with richly decorated mouldings. The side front is prolonged in a wing of somewhat later construction with two-light windows under bearing-arches, at the extremity of which rises a square battlemented tower, of stone at the base and of brick above, about 140 ft. high.

S. ANASTASIO, a little church, consisting only of a nave and apse, with a lateral campanile, but interesting as a simple Lombard building of the VIII cent., with alterations of the XIII. It is of brick, banded with white marble, with a dado of the same. The walls, the apse, and front and side doors are of the first period; the doors of the kind characteristic of Lucca, with heavy pilasters and caps bearing animals, heavy carved lintels carrying stilted round arches with impost-mouldings and solid tympana. The two-light windows high in the façade and the arcaded brick cornices are XIII cent. work; the open belfry stage is later.

S. FREDIANO, an ancient Lombard church, originally built in the VI cent., just outside the city walls, and rebuilt in 690. It was a five-aisled basilica, something over 200 ft. in length by 80 ft. in breadth, with twelve bays divided by

twenty-two columns mostly antique, supporting round arches, and a high clerestory. The nave was covered with an open timber-roof decorated with gold and carving; this has been replaced during the present century by a simpler wooden roof. The aisles are covered with groined vaulting in square bays, but the outer aisles are now converted into square chapels. The nave terminated in a round eastern apse. But when the town walls were rebuilt in 1260, the church found itself within the walls and its orientation was reversed. The eastern apse was taken down and rebuilt on the west end, and a new façade built at the east end. An atrium was added, which was burned in 1314 and not replaced. The present front has three galleries of columns with horizontal entablatures, a mosaic in the gable and an eagle crowning the apex. The fine apse is lofty, with two stories of round-arched windows and an eaves-gallery of tall Corinthian columns bearing a horizontal cornice. At the angle stands a very high detached square campanile with a solid base as high as the aisle walls and five stories of narrow round-arched windows generally grouped and multiplying toward the top, with an additional belfry stage of clumsy modern arches. (*See Fig. 104.*)

S. GIOVANNI, an old basilica over whose age there has been much controversy. It has a nave and aisles of six arcaded bays, carried on columns of which some apparently are old, flat ceilings, projecting transept and apse, and a battlemented tower. Out of the left transept arm opens an unusually large square baptistery, about 50 ft. wide, covered with an eight-celled domed vault. The church, Lombard in aspect, has been assigned both to the IX and the XII centuries. Apparently it was first called Sta. Reparata, and the name of S. Giovanni, once given to the baptistery, has extended to the whole. The coffered ceiling of the nave and the façade are modern, though the old west middle door remains.

STA. GIULIA, a small rectangular church without aisles or transept, but with an eastern apse, built in the second half of the X cent. by Bishop Conrad, and restored early in the XIII century. It has a characteristic façade of white marble, with occasional bands of black marble. Three blind arches on flat pilasters with foliated capitals occupy the whole breadth of the front and rather more than half its height. In the middle arch is a square-headed



Fig. 104.—Lucca, S. Frediano, Apse.

doorway with a decorated cornice joining the pilaster capitals, and a bas-relief in the arch-head. A pointed two-light window is the only other opening in this simple front, which finishes with a low gable, and a flat corbel-table with cusped arches following its rake. The sides and east end are of brick, with narrow, round-headed cusped windows, the small apse finishing with a moulded cornice and arched corbel-table. A square campanile, attached to the N. E. corner, rises scarcely above the east gable, and is apparently unfinished. The buildings attached to the church on the north are of the same character with it and apparently of the same age.

S. Giusto. A XII cent. Lombard church with many of the characteristics of the Pisan school. It has a fine front of white and black marble, with three characteristic doorways, of which the central one is of great beauty. The jambs are flat pilasters, with large foliated capitals, each with a rampant animal at the angle. These support a heavy sculptured lintel. Over this is a round arch with banded and moulded archivolt springing from lions upon pedestals and enclosing a bas-relief of the Virgin and Child. Over the doorway the central portion of the front is carried up in two stories of arcades with columns ending in a low gable. The upper part of the front is banded with black and white marble. This front is presumed to have been built about 1150, largely out of the materials of an older front, and may perhaps exhibit the detail of the Lombard style of the VIII century. The interior has been modernized.

Sta. Maria Fuorcivitas, an early flat-ceiled basilica, apparently rebuilt in the XII century. It is cruciform, with projecting transept and an eastern apse. The arcades of the nave, in eight bays, rest on early columns, but are broken in the middle by a pair of piers. It is Lombard in style, and has an eaves-gallery round the apse with lintels instead of arcades. The front, however, was remodelled in 1516, and the interior height increased.

S. Michele, a characteristic Lombard church of the Pisan type. It is a cruciform basilica, with nave and aisles separated by seven stilted round arches on each side, resting on columns of white marble with somewhat fantastic capitals, a high triumphal arch opening into a broad transept with square ends, and a round apse the full breadth of the nave. The façade, rebuilt toward the end of the XII cent. and again completely renewed since 1870, is most interesting. It is constructively a mere screen, having no relation with the church, but illustrating, in a highly characteristic manner, the peculiarities of the Pisan school. It is divided into five stories of arcades, of which the first story has seven high round blind arches, three of them containing doorways, the second and third fourteen arches each and the upper two each six, covering only the nave, though rising high above its roof. The low gable is crowned by a statue of the archangel Michael with bronze wings. The distinction of the façade is in the variety and character of its details. It is executed throughout in white and green marble. The columns of the arcades are extremely varied, some shafts are quite plain, some are sculptured, some inlaid with marble, some are coupled and bound together in the middle, with a single capital and base. The cornices and string-courses are carved with foliage and animals in relief, and the wall over the arches is covered with an inlay of panels of various forms, arranged quite at random, partly with geometrical patterns, but for the most part representing hunting scenes. These designs though rude are spirited, the figures are of white marble on a ground of dark green serpentine. The sides of the church have two stories of arcades in the aisle wall, and a plain clerestory with round-arched windows. A square campanile stands over

the south transept. The church was founded in 764, but rebuilt in part or in whole in 811 and 845. In its present aspect it dates presumably from the XII century.

S. Paolino, a Renaissance cruciform church, designed, according to Vasari, by Bacio di Montelupo, and dating from 1522, of imposing design, though not large. Its length is about 150 feet, its breadth 63 ft. It is divided within by transverse round arches into five oblong bays. A barrel-vaulted nave is prolonged into a square choir, intersecting a transept of similar design. Two superposed orders of plain pilasters on pedestals are carried round the whole interior. Round arches open from the nave into the aisles, and over them are small pedimented windows in the intervals of the upper order. Lunettes between cross ribs intersect the nave vault, which springs from the upper entablature. The square choir is covered by barrel vaults, the crossing by a flat dome. The exterior is of marble and its architecture is in exact accord with the interior. Three orders of pilasters on pedestals divide the height of the walls; the front has a square doorway in the centre flanked by round niches enclosing statues; in the narrowed second story, which is flanked by scroll-buttresses, are three square windows with pilasters carrying entablature and pediment. The third story apes the first and second, with simulated nave and aisles.

Villa Guinigi, an imposing and elegant country-house now used as a public hospital, of which the plan is a rectangle about 275 ft. long and 50 ft. deep, with an open loggia or entrance-hall in the middle, the approach to which makes the chief feature of the long façade, consisting of eight round arches supported on square stone piers with leafed capitals. On each side of this arcade are seven small plain square windows set high in the wall. The second story is a round-arched arcade of twenty arches, each enclosing a group of three narrow, pointed and cusped arches with a window in the middle one.

LUCERA, Italy.

The Cathedral, begun in the year 1300, and consecrated in October, 1302, is a cruciform brick Gothic church about 190 ft. long and 121 ft. broad across the transept, with nave and aisles in six bays of arches springing from square piers with half columns of verd-antique. The nave opens into the transept by one great triumphal arch springing from a column of travertine on each side standing on another of verd-antique, from which it is separated by a strong projecting corbel. The transept has three apses on its east wall, corresponding to the nave and aisles; the vault of the middle apse is adorned with painting. The nave and transept are covered by wooden ceilings, the aisles by groined vaults. Under the transept is a vaulted crypt. The front is simple and rude. The three plain pointed doorways are covered by flat gables—that to the south is in the base of a square tower of several stages divided by thin strings; the upper stage octagonal, with a two-light pointed and traceried window in each face and a low octagonal roof. Under the flat nave gable is a wheel window. The side divisions have horizontal cornices. The central apse of the east end is flanked by two turrets.

LUGNANO, Italy.

The Church of Sta. Maria Assunta, though of small dimensions, is of importance as one of the very few churches entirely from the hand of the Roman school of mediæval artists usually called the Cosmati. It is cruciform in plan, with a porch, three aisles, a very long transept extending two bays beyond the side-aisles, a single apse and a crypt. The porch, extending across the entire façade, consists of an architrave supported by columns, similar in general arrangement to

the porches in Rome, and decorated with mosaics and sculptures. The façade has a rose-window in a square formed of a mosaic frieze, on each side of which is a two-light round-headed window. The body of the church consists of five bays with rather heavy round piers supporting round arches and topped by varying capitals of rudimentary foliated and geometric designs. The nave is covered by a tunnel-vault, the aisles by cross-vaults, which were apparently substituted at some time for the original covering. The crypt, which is entered by two flights of steps from the aisles, is an elegant and original structure by a more masterly hand than the rest of the church. Ten delicate monolithic columns — there were originally fourteen—with large and spreading foliated capitals of careful workmanship support four architraves (at first six) on which the floor of the choir rests. [A. L. F., Jr.]

LYDDA (Lud), Palestine.

The Church of St. George is an interesting fragment illustrating the church of Sebaste (Samaria) which it greatly resembles. There remains one bay each of a nave and two aisles with their three eastern apses, of Byzantine form, or round within and octagonal without, the apses domed, the bays groin-vaulted. The pointed arches, clerestory, clustered piers and vaulting all indicate work of the second half of the xii cent.; the bases and capitals and a carved cornice about the main apse are of fully developed Romanesque work, such as was mingled with the work of the crusaders at that period.

MADERNO, Lago di Garda, Italy.

The Church is a small basilica of interesting plan, built in the xi or xii cent., three-aisled and without transept, vaulted throughout. The four bays of the nave are nearly square, those of the narrow aisles consequently very oblong, divided by clustered piers with quasi-Corinthian capitals. These carry in the first three bays broad pointed arches. In the last, which is the choir, the arcade is subdivided by two small round arches borne by a small column, and the bay is covered by a hemispherical dome carried on pendentives of singular construction. A later square chancel takes the place of the original round apse.

MAGNESIA (ad Maeandrum), Asia Minor.

Temple of Artemis (Diana) Leukophryene, probably transferred from the original site at Leucophrys. It was originally Ionic, dipteral, of the v cent. B.C., and was rebuilt and made pseudo-dipteral 330–300 B.C., by Hermogenes. Strabo says it yielded in grandeur only to the temples of Apollo Didymæus at Miletus, and of Artemis at Ephesus. It was pillaged and burned by the Persians, and restored during the reigns of Nerva, Hadrian, and Trajan. It was explored by the French commission of 1843. The remains now lie in a vast pile of fragments, and show that the temple stood in a large peribolos or enclosure, surrounded by a double Doric portico with prophylæa in front. The peribolos, the walls of which are still nearly 20 ft. high, was adorned with many statues, on pedestals placed at regular distances in front of the columns of the portico. In the middle was the temple, which was Ionic, octastyle, pseudo-dipteral, on a stylobate of eight steps (probably in front only), with fifteen columns in each flank and two between antæ in pronaos and opisthodomos; ground plan, 198 ft. by 106 ft., measured on the highest step. The diameter of the columns at the base was 4½ ft., at the neck, 4 ft.; their height (base and capital), 40 ft. 8 in.; height of entablature, 9 ft. 10 in. About a third of the beautiful frieze, of Roman epoch, sculptured with reliefs representing the war of the Amazons, is now in the Louvre. The material is white marble from Mt. Pactyas. Recent excavations by the German Institute at Athens

show that almost all the architectural members are still in existence, lying about the stereobate, which is also to a large extent preserved. Three building periods are easily distinguishable in the remains: (*a*) the archaic dipteral temple with Ionic columns of Poros stone having thirty-two flutes, ascribed to the v cent. B.C.; (*b*) the pseudo-dipteral temple of white marble, built by Hermogenes; (*c*) a Roman restoration, to which belong the foliage-frieze of the cella-wall, and the stoas and wall of the peribolos.

THEATRE, near the middle of the city, excavated in the slope of Mt. Thorax. There may have been as many as fifty tiers of seats, and there are remains of an arched entrance on each side. Both the earliest and the latest stage-structures included five rooms, and the German Institute discovered in 1891 a vaulted underground passage leading from the middle of the orchestra to the interior of the stage structure, as in the theatres of Eretria and Sicyon. The construction is of the IV cent. B.C., completed and altered in Hellenistic and Roman times.

MALPAGA, Italy.

The CASTLE, one of the later examples of the fortified houses of the great captains of the Middle Ages. It is a quadrangular pile of buildings surrounding a court-yard, the greater part of the external wall now hidden behind a mass of later additions, but showing above these a strong line of forked battlements crowning the wall, and four angle towers not projecting from it, of which one rises into an additional story on bold machicolations. A low enclosing wall, also with forked battlements, surrounds the castle at a little distance, the intervening space, formerly free, being now covered by the later buildings above mentioned. One of the ancient drawbridges over the moat still exists. The walls of the court-yard, carried on pointed arches, are adorned by frescoes illustrating picturesque incidents in the life of Colleoni. The ancient banquet-hall and some of the other apartments are also decorated with paintings. The castle was built late in the XV cent. by Bartolomeo Colleoni, the famous condottiere, whose statue stands before the church of SS. Giovanni e Paolo at Venice.

MALTA. See *Valetta*.

MANTINEA, Arcadia, Greece.

The AGORA was surrounded with porticoes: the remains surviving on three sides appear to be of Roman date. It contained several shrines and temples, and was beautified with statues and exedras, including the elaborate and highly decorated exedra of Epigone, of semicircular plan and covered with a semi-dome, which formed the central feature of a market-structure. The remains, though testifying to Roman reconstructions, undoubtedly preserve the Greek dispositions, and are among the very few surviving examples of a fully developed Greek agora.

BOULEUTERION, or Council-house, in the agora. The foundations, of good Hellenic masonry, occupy a rectangle about 119 ft. by 62 ft., and indicate a building with a projecting wing at each end. The original back wall, which now divides the building in the middle, is pierced at the east end by a double door, which leads by flights of steps to the portico, originally of ten columns, which is of later date than the main structure. The columns are Ionic, with convex flutings, and are similar in style to those of the Philippeum at Olympia. They probably date from the Macedonian epoch. At the west end were two chambers divided from the remainder of the structure.

DOUBLE TEMPLE, divided by a partition-wall in the middle, one chamber being dedicated to Asklepios, and the other to Leto (Latona), Apollo, and Artemis (Diana).

FORTIFICATIONS, about two and a half miles in extent, with some one hundred and twenty towers, round at the gates and

square elsewhere, at intervals of 85 ft. Ten gates and numerous posterns are still recognizable. The walls, probably built after 371 B.C., consist of a base, from 4 ft. to 6 ft. high, of large stones of trapezoidal form in regular courses, the intervals between the large blocks being filled with small stones. The upper part of the wall was of unburned bricks.

THEATRE, near the temple of Hera. Portions of the lower tiers of seats survive, displaying eight stairways and seven cunei. The auditorium is supported by an artificial mound with a retaining wall of polygonal masonry. On either side a flight of steps gave access from the exterior to the diazoma, and two others penetrated the theatre from the back. The stage-structure shows the usual constructions of Roman date. The diameter of the theatre is about 217 ft., that of the orchestra 70 ft.

MANTUA (Mantova), Italy.

CASTELLO DI CORTE, the ancient castle of the Gonzagas, the reigning family of Mantua during nearly three centuries. It stands near the Ducal Palace (Corte Reale, *q. v.*), of which indeed it should be considered a portion, though detached, and on the edge of the lake whose waters fill a basin in the middle of which the castle is placed. It is a simple but imposing mass of building with plain walls of brick, flanked by strong projecting angle-towers, a high battering base, a heavy machicolated cornice, and forked battlements now walled up and covered with a roof. The original windows have mostly disappeared, and new openings have been made to suit the later purposes of the building, which contains the archives of state. Several of the principal rooms were adorned with frescoes by Andrea Mantegna, now nearly obliterated. The castle is thought to have been built about the end of the XIV century.

The CATHEDRAL, dedicated to St. Peter, originally consecrated in 982, was rebuilt in Gothic style in 1395. The exterior was left unfinished until, in 1761, the front was completed in baroco style by Baschiera. A portion of the south aisle wall still shows the character of the original design, consisting of a series of sharp gables, one to each bay, separated by buttresses terminating in pinnacles, as in S. Petronio at Bologna, the whole being of brickwork. The ancient campanile still stands, but unfinished. The interior, rebuilt after a fire in 1545, is ascribed to Giulio Romano, who, however, died in 1546. It has double aisles and transept, and a dome at the crossing. The main piers are faced with Corinthian pilasters and carry arches; the nave is covered with a flat wooden ceiling, panelled, and richly decorated. The idea, says Gurlitt, of roofing the high nave flat, the inner aisles with coffered barrel-vaults, the outer aisles with coved ceilings, the chapels again with barrel-vaults at right angles to the nave, is queer enough to have sprung up in Giulio's head.



Fig 105.—Mantua, S Andrea.

The CORTE REALE, or Ducal Palace, is an extensive mass of buildings of various dates and styles, begun in 1302 under Guido Buonacolsi, one of the earliest lords of Mantua, and continued and extended by successive lords and dukes up to the middle of the XVI century. It really comprises the Castello di Corte (*q. v.*). This is extended by later constructions, comprising galleries, halls of state, ball-rooms, apartments for the royal residence, besides a theatre and a church separated by various piazzas and gardens covering an immense extent of ground, and containing, it has been said, not less than five hundred rooms. The forms of the earlier architecture have been for the most part lost, through repeated alterations and rebuildings. But two façades still remain substantially unchanged, which furnish a characteristic and imposing example of the civic Gothic of the XIV cent. in the north of Italy. They are composed with a street story of high open pointed arches with voussoirs alternately black and white, carried on low columns with foliated capitals—and an upper story of twin pointed windows encompassed by high pointed bearing-arches with cusped circles beneath. These windows are executed in red brick except for the mullion-shafts and alternate voussoirs. Between the upper and lower story is a broad surface of plain brick wall, of which the original openings have been filled up and replaced by plain square windows. The high unbroken fronts end in small brick cornices and tall forked battlements. The great apartments were sumptuously decorated in the XVI cent., chiefly by Giulio Romano and Primaticcio; the walls for the most part have broad pilasters with composite capitals and rich cornices, very elaborately ornamented with arabesques in relief, picked out with gold and color; the ceilings generally of wood, vaulted and panelled and painted with figure subjects; the doors richly carved and gilded. The palace was for three centuries the home of the Gonzagas, whose name is closely associated with the rise and fall of this once brilliant and powerful city.

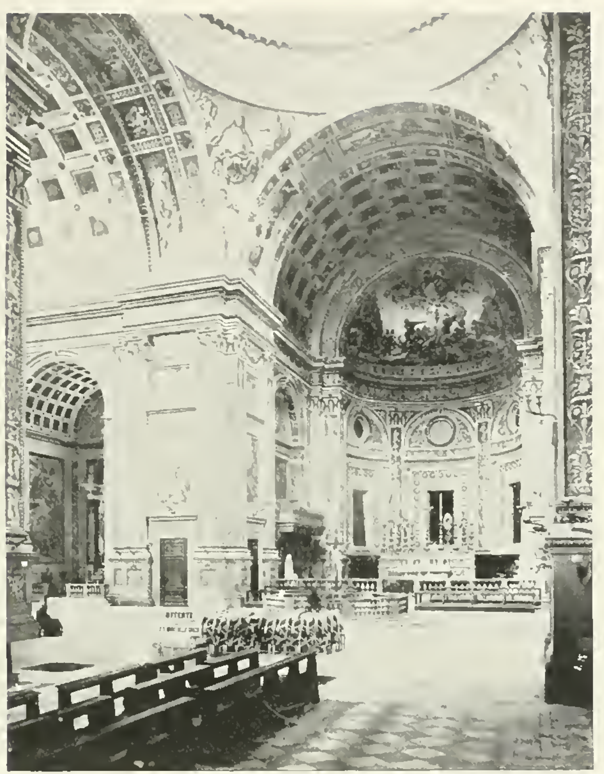


Fig. 106.—Mantua, S. Andrea, Interior.

PALAZZO DELLA RAGIONE (Town Hall). This building, completed about 1250, has undergone such changes to fit it for its modern uses that little of its original character remains. The characteristic entrance gateway is substantially unaltered. It is a square building of three stories, of which the lower is pierced with a single broad round archway of brick with occasional voussoirs of stone. The passage is not

vaulted, but spanned by four round arches of stone, at equal distances. Above the arch and two broad round-arched windows over it, now walled up, is a graceful open gallery of eight narrow round-headed arches, divided by slender marble columns coupled in the depth of the wall. A simple projecting band of brickwork carried on small corbels terminates the front. A tall campanile attached to the palace dates from 1478.

Palazzo del Tè, a famous country-house outside the walls of the city, built and decorated by Giulio Romano (his most famous work) in or about 1527 for the duke of Gonzaga. The buildings are of a single story, surrounding an interior court about 120 ft. square, the exterior measurement being about 180 ft. on each side. The garden façade has a projecting centre with three round arches on coupled Doric columns with entablature and pediment, forming the entrance to the court. The side divisions consist of open corridors with thin columns and pilasters on pedestals, with occasional arches—all surmounted by a high attic. The court is designed with a single order of engaged Doric columns with decorated frieze, the intervals alternately broad and narrow, filled with rustic walling and with alternate windows and niches. The rooms in the palace are decorated by Giulio with great richness, but with characteristic heaviness and capriciousness of detail.

S. Andrea (St. Andrew), the largest and most important church in Mantua. It is the master-work of Alberti, and forerunner of the great church designs of Bramante and Michael Angelo; a cruciform early Renaissance building 340 ft. long and about 100 ft. wide, with a façade of white marble in the form of a Roman triumphal arch composed of an order of four composite flat pilasters, on enormously high pedestals, and an attenuated entablature, all under a low pediment. The middle intercolumniation is expanded to receive the immense deep open arch occupying the whole height of the pilasters; the side intervals being narrow and occupied each by a doorway and two large plain round-headed windows one above another. The interior presents a nave 55 ft. broad, in three bays, with an imposing order of rich Corinthian pilasters, coupled and decorated with painted arabesques, between which open a row of singularly arranged chapels, alternately large and small, corresponding to the larger and smaller intervals of the pilasters. The transept is as broad as the nave and has large chapels on the east and west sides. The choir is in a single square bay, with a round apse. Nave, transept, and choir are covered with a round barrel-vault, 98 ft. high, deeply panelled and richly painted, and a hemispherical dome rises from the crossing. The church was built by Leon Battista Alberti in 1472, but the dome was not added till 1782. The building shows the marked characteristics of Alberti's design, the lean orders and rigid detail; but the disposition of the riuterior architecture, the single great Corinthian order, the vaulted nave, the great piers and pendentives prepared for the dome which was intended by Alberti, though actually designed and built by Juvara, were long steps in the development of the Renaissance, and clearly models for the designers of St. Peter's at Rome. Attached to the church at the northern angle is a Gothic bell-tower, remnant of an earlier church. It is a square brick tower in four stages, with flat corner-pilasters and three stories of pointed windows, the upper story having in each face a large three-light traceried window with mullion-shafts of polished marble coupled in the thickness of the wall, under a high pointed enclosing arch. Above a deep and rich cornice rises an octagonal belfry with angle-columns and round arches enclosing pointed windows. A round brick spire covered with tiles terminates the whole. (*See Figs. 105, 106.*)

MARATHOS See *Amrith.*

MAR HANNA, near Gaza, Palestine.

ROCK-CUTTINGS, at the base of the acropolis hill, consisting of a labyrinth of chambers with arched or bell-shaped ceilings, galleries, and stairways, recalling the catacombs of Rome, and admirably cut in the soft gray chalk. The chambers are from 20 ft. to 25 ft. in diameter, and 30 ft. to 40 ft. high, lighted by shafts opening at the apex of the ceiling, which is often supported by detached pillars. At the foot of the hill, in front of the rock-chambers, are extensive foundations in hewn stone. Many of the hills in the neighborhood are honeycombed with similar cuttings, and there are also large necropolises of rock-cut tombs, and cisterns of excellent workmanship. Originally due, no doubt, to the primitive inhabitants, these rock-cuttings have continued in use; some are shown by inscriptions to have served as churches or mosques, and many are still used as stables for goats or cattle.

MATERA, Italy.

The CATHEDRAL is a Romanesque building of the XI cent., rebuilt at the end of the XII, and restored in later years, showing in its picturesque details both Norman and Saracenic influence. It is cruciform, with nave and single aisles and transept not projecting. Over the crossing is a low, square tower, and the choir is flanked on the north by a square campanile with twin windows under round arches in the upper stories. The church, 175 ft. long, in eight bays, of which all but the two easternmost retain their original round-arched form, is divided by twelve classic columns, believed to have been brought from Metapontum. The west front, of unusual design, has a walled terrace before it with semicircular central steps. The single round-arched door in the middle has a sculptured tympanum, and is flanked by niches. Over the nave is a raised gable decorated with a corbelled



Fig. 107.—Matera, Cathedral.

and shafted arcade that follows its slope. Below this is a rich rose window, between two quasi buttresses, which consist of two stories of boldly corbelled columns. A flat blind arcade, resting on alternate corbels and pilasters, follows the slope of the aisle-cornices, and is continued round the south side of the church. This side has two doorways, and, high up in the aisle, a window, richly decorated with corbels and shafting, from which the edicts of the patriarch of Constantinople were formerly promulgated. The clerestory had a single round-arched window in each bay, now disfigured by modern square-headed openings. (*See Fig. 107.*)

MAXIMIANOPOLIS. See *Kanawat.*

MEGALOPOLIS. Arcadia, Greece.

The Agora was enclosed with porticoes in the Ionian fashion, and must, with the monuments connected with it, have formed a very beautiful feature. The stoa on the north side, that of Philip, has been in part excavated by the British School. Adjoining it on the north was that of the Archives, containing some of the government offices, and the temples of Hermes and of Tyche. On the south stood the stoa of Aristander, flanked by the temples of Demeter and Persephone and of Zeus Soter. Close to this was the Bouleuterion or Senate-house. Another portico, called Myropolis (of the perfume-sellers), was built about 300 B.C. from spoils won by Aristodemus from the Spartans. The middle of the agora was occupied by the Sanctuary of Zeus (Jupiter) of Mt. Sykaion, on the ground of which the public was not allowed to set foot, though the low enclosing-wall permitted an unimpeded view of the various altars, statues, and other dispositions within. Excavations have been in progress at Megalopolis under the conduct of the British School at Athens.

Theatre, on the south bank of the Helisson. The cavea is in part excavated from the slope of a low hill, and in part built up. The extremities of the wings are supported by massive walls. The diameter is about 475 ft., and Pausanias calls it the largest theatre known to him. It is estimated that it could seat about forty thousand persons. The lowest rows of ordinary seats of the cavea, and at the bottom a row of thrones or benches with backs and arms at the ends, as at Epidaurus, remain perfect. There were ten *klimakes* or radial stairways. The usual drain skirts the orchestra, below the seats. The orchestra is in plan a little over a semicircle, and had a floor of beaten earth. The most important portion of the remains is the stage-structure, the walls of which are in unusually good preservation. First toward the orchestra is the Roman stage, with a proscenium ornamented with columns. Next behind this there is a proscenium-wall of excellent masonry which has along its whole length a range of steps leading down to the level of the orchestra. The original height of this proscenium is given as 5 ft. 10 in; the breadth of the stage as 18 ft. 2 in. Behind the stage rose a back-wall, with a large central door flanked by two smaller ones. Behind this wall was a very large rectangular hall, the roof of which appears to have been supported by five ranges of seven columns, though its plan is not yet fully known, and has evidently been modified in Roman times.

MELASSA (anc. Mylassa), Asia Minor.

Arch or gateway east of the city. It is 28 ft. wide and 30 ft. high, faced by an order of Corinthian pilasters, and pierced by a single arch 24 ft. high and 13½ ft. wide, whose imposts are supported by smaller Corinthian pilasters. Apparently, it carried an attic. The details of the order are like those of the mausoleum.

Mausoleum, on a hill south of the city. Texier believed it to belong to the II cent., and to be a simplified copy of the tomb of Mausolus. It is of two stories, in plan 18½ ft. square, in height about 29 ft., the lower story is a basement 11½ ft. high on

a stylobate of two steps, in which is the sepulchral chamber, with a ceiling of stone beams supported on four pillars. The second story is an edicule, with a peristyle consisting on each side of two Corinthian columns with elliptical shafts, between square Corinthian angle-piers. The peristyle supports an entablature, above which is a sort of stepped pyramid. The sides of the peristyle were once closed by marble panels; the interior was painted blue. The interior of the roof is remarkable for its beautiful ornamental work. Columns and piers are fluted, and the capitals are of the bell-form of those of the Tower of the Winds and the Dionysiac Theatre precinct at Athens.

Votive Column of Menandros, Corinthian, with a rich acanthus-capital of importance in the study of the order. It has a table for the inscription interrupting the fluting, and bore a statue. Two Ionic votive columns remain of importance in the series of monuments for the study of the Ionic order.

At Kodja Yaileh, near Melassa, is an Ionic temple *in antis* upon a raised basement or podium; the total depth is 70½ ft., the interior dimensions of the cella to the extremity of the wide rectangular niche for the cult-statue in the back wall, 34 ft. by 43 ft. Between the antæ of the pronaos were two columns. There is a window on each side of the wide doorway between pronaos and cella, and four windows in each side wall—three in the cella and one in the pronaos. The windows taper toward the top and are closed in by lintels. The masonry is good isodomic, with convex faces in the basement. This temple was taken by Le Bas to be that of Labranda (*q. v.*). See also *Yakkli*.

MESSA (Taxiarches), Lesbos, Aegean Sea.

Greek Ionic Temple of the first half of the IV cent. B.C., in plan peripteral (pseudo-dipteral), with eight columns on the fronts and fourteen on the flanks, on a stylobate of three steps. It had deep pronaos and opisthodomos, each with two columns *in antis*. The shafts of these columns had twenty-four Doric channels, with Ionic bases and capitals. The dimensions, measured on the lowest step, were 78 ft. by 136 ft. The columns had twenty-four flutes, and a diameter above the base of 3¼ ft. The bases were of Asiatic type, but remarkably pure in design, without plinths, and the beautiful capitals approached the type of those of the Athenian Propylæa. The stereobate and all the architectural elements survive. The material is trachyte, the execution and design excellent.

MESSENE, Greece.

Arcadian Gate, on the north side, toward Megalopolis. Leake calls it one of the finest specimens of Greek military architecture in existence. It is double, with an intermediate circular court 64 ft. 6 in. in diameter, in the wall of which, on each side of the outer gate, is a niche for a statue. This outer gate, 17 ft. 4 in. by 10 ft. 4 in. high, originally vaulted, is flanked by two towers, each about 21 ft. 3 in. square. The inner gate had a central pier of a single stone, now broken in two. The masonry, especially that of the circular court, is very regular and beautiful. The walls, of which this gate forms a part, had at least thirty towers of two stories each, most of them square, but some semicircular, placed at intervals. Of these, seven are still in fair preservation.

MESSINA, Sicily.

The Cathedral is a great three-aisled basilica nearly 300 ft. long and 140 ft. across the transept, with three eastern apses. The long nave is of fourteen bays, with broad pointed arches, somewhat horseshoed in shape, resting on columns with low stilt-blocks and capitals, some Romanesque and some Gothic. The shafts are believed to come from a neighboring temple of Neptune. The nave is covered with a handsome wooden ceiling, a repetition of the original one, the crossing with

a modern dome. The three apses, apparently older than the nave and the clerestory, have round-arched windows, those of the transept, which is higher and broader than the nave, are pointed; the apses are lined with mosaics of the XIII century. The two first bays of the nave are cut off by cross arches to form an entrance porch. Under the east end is a long crypt of three aisles, with pointed vaults on low columns and Norman capitals. The aisles are lined with chapels, and both within and without the church is considerably deformed by later additions. Of the exterior the most interesting part is the front, which is banded in white and red marble. The three doorways, inserted in the XIV cent., are of uncommon richness, especially the middle one, which is covered with a profusion of mouldings, shafting, arabesques, and figures, human and animal, and surmounted by a high crocketed canopy. According to tradition an early church was built in this place in the time of Belisarius; but the present one was built under Count Roger at the end of the XI cent., remodelled near 1125 and consecrated as cathedral, according to an inscription, in 1197. In 1254 the ceiling took fire from the torches on the funeral catafalque of Conrad, the son of the emperor Frederic II., and the interior was much damaged, after which the present ceiling was added. In 1330 the mosaic decoration of the apses was added, and the doorways of the façade. The old bell-tower, destroyed by an earthquake in 1783, was replaced by another which was taken down in 1865, two towers adjoining the apses being substituted.

METAPONTUM (Torremare), Italy.

Doric Temple of Apollo Lyceus, on the site of the farm called the Masseria di Sansone or Chiesa di Sansone, the buildings of which are in great part built of its stones, including drums of columns, architrave-blocks, and capitals of the peristyle and of two orders of the interior of the temple. The first excavations were made here by the Duc de Luynes in 1828, and a beautiful polychrome terra-cotta cornice was found, with waterspouts in the form of lion-heads. This is now in the Cabinet des Médailles at Paris. More complete excavations have laid bare the stereobate of the temple, which still exhibits the marks of the column bases and of the cella-walls. The material is a coarse limestone, which was, as usual, coated with fine stucco. These excavations have also furnished many more pieces of the polychrome terra-cotta, together with antefixes, tiles, fragments of sculptured metopes, etc.; in a word, all that is needed for a complete restoration. The date of the temple is the beginning of the VI cent. B.C., or even earlier, though much of its ornament in terracotta, which has been found, is of comparatively late date. It was hexastyle, peripteral, with twelve columns on the flanks. The columns have twenty channels; the capitals are wide-spreading, and present a deep undercutting at the junction of echinus and neck. The chief dimensions are: stereobate, 70½ ft. by 136 ft.; stylobate, highest step, 65½ ft. by 128 ft.; columns, height 18 ft. 4 in., base diameter 4 ft. 5½ in., neck diameter, 3 ft. 5 in.

Doric Temple, known as the Tavola dei Paladini, about three miles from that of the Masseria di Sansone. Within the last century everything portable has been removed from this temple, down to its pavement and the steps of the stylobate, and including every vestige of the cella. Fifteen columns of the peristyle remain standing; ten on the north side and five on the south, with portions of their architraves, which were formed like that of the so-called Temple of Ceres at Pæstum, of two courses. The columns are a little smaller than those of the Temple of Ceres, but resemble them closely in

type, diminishing much toward the top, and having a spreading echinus with deep undercutting. Their height is five diameters, and the intercolumniation wide. The material was the rough native limestone, coated with fine stucco, tinted yellow on the columns. Some remains have been found of cornice decoration in terracotta. The temple was hexastyle, with twelve columns on the flanks. It dates from the first half of the VI cent. B.C., or earlier. From the subjects of some votive mosaics belonging to it, it may have been dedicated to Demeter; most scholars, however, ascribe it to Pallas. The interior of the cella was 20½ ft. wide, and consisted of two chambers, that in front 37 ft. long, and that behind 12¾ ft.

MILAN (Milano, Mailand), Italy.

ARCH OF PEACE, or Arch of the Simplon, begun in 1807, during the French occupation of Milan, as a triumphal arch to celebrate the victories of Napoleon and as a monumental entrance to the great route of the Simplon, then just completed. The arch was a reproduction of a temporary one built of wood in the previous year to celebrate the marriage of Eugene Beauharnais with the Princess Amelia of Bavaria. It was finished thirty years later by the Austrians with inscriptions and bas-reliefs commemorating the downfall of Napoleon. The arch is entirely of white marble, in three divisions, with an enriched order of detached Corinthian columns on pedestals enclosing a great arch in the centre and small ones on either side, with a high attic bearing an inscription in the centre, and reclining figures at the sides. It is crowned by the statue of Peace in a chariot with six horses, flanked by single equestrian figures, and is about 75 ft. wide by 42 ft. deep and 80 ft. high.

The ARCHBISHOP'S SEMINARY was founded by St. Charles Borromeo about 1570, and was built from the designs of the Milanese architect and painter, Giuseppe Meda. Its plan is a square of about 250 ft., formed by four ranges of building enclosing a noble court about 150 ft. square, surrounded by two stories of broad open galleries, each with an order of coupled columns of red granite—Doric and Ionic respectively—the lower of which is divided by transverse arches into square groined bays. In striking contrast to the temperance and dignity of the general design is the great entrance gateway, possibly of later date.

The BRERA is the familiar name for the Palace of Arts and Sciences, which is the seat of the great collections and art-schools of Milan. The original buildings were erected in the XII cent. for the use of the religious order of the Umiliati, from whose hands they passed in 1571 into those of the Jesuits, by whom the present palace was built in 1651–67 from the designs of Ricchini, the façade by Piermarini. On the suppression of the Jesuits in 1773 the establishment became the property of the state, and in 1803 it was devoted to its present uses. The buildings are of vast extent, covering an irregular square of about 370 ft. The principal façade, about 240 ft. long, is without character, consisting of two stories of square windows, and quoined angles, with a mezzanine between, the upper windows with pedimented caps, and the central arched entrance in an engaged Doric portico, the whole ending in a projecting cornice on consoles. The court, the best part of the building, measures about 90 ft. by 120 ft., and is surrounded by two stories of open arches on coupled columns carrying blocks of entablature, Tuscan below and Ionic above. The palace has a grand double staircase, and many halls of no special architectural interest. It enclosed a small church, the sole remnant of the earlier buildings, which had a Gothic façade with a deeply splayed round-arched doorway, two stories of two-light cusped windows, some pointed-arched,

others round, and a single high gable covering the front.

The CATHEDRAL is, with the possible exception of the cathedral of Seville, the largest mediæval church in Europe. It is also one of the richest in point of material and decoration. It is cruciform, perfectly regular in plan, with a nave of great breadth and double aisles, a transept of equal breadth with the nave, with single aisles, and a choir ending in an octagon with a single aisle continued around its east end (an arrangement very rare in Italian churches), and flanked by two rectangular sacristies which fill out the east end of the church to the breadth of the west end. The nave and its aisles are of nine bays, square in the aisles, oblong in the nave. The outer and inner aisles are of equal width, and are separated from each other and from the nave, transept, and choir by massive piers, nearly or quite 8 ft. in diameter, of which the plan is an octagonal star, and the bases somewhat clumsily moulded. The capitals, which are among the most remarkable features of the church, consist of a true capital, which is a low wreath of conventional foliage, with a heavy abacus, on which stands a circling range of eight tall canopied niches, each enclosing a statue, over which rise high crocketed gables, the whole height of the compound capital being not far from 20 ft. The piers are joined by high, narrow, pointed arches with weak mouldings, above which rises a low clerestory with a single pointed window in each bay. The clerestory is repeated over the inner aisles. The walls of the outer aisles are of unusual height and lighted by a tall three-light pointed window in each bay, with traceried head, and filled with stained glass. High-pitched four-part vaults cover the whole church and are stayed by iron rods, the only exception being the square bay at the crossing, which is covered by a slightly elongated octagonal dome, whose interior height above the floor is about 200 ft. The transept has square ends, except that from its central aisle, both on the north and the south, projects an octagonal chapel, vaulted at the height of the nave arches, above which the square wall of the transept is pierced by a great pointed window divided into nine lights, with traceried head, and filled with fine glass. The three sides of the octagonal termination are filled each with an immense window 28 ft. broad and nearly 60 ft. high, with traceried head, and glazed with extremely rich modern glass. The floor of the choir rises by successive ascents to the high altar near its eastern end, which stands under a circular baldacchino with Corinthian columns and entablature crowned by a dome, the whole decorated with extreme richness. The choir is enclosed by a high Renaissance screen wall, decorated with pilasters and caryatides and divided into panels charged with bas-reliefs. The inside is lined with elaborately carved stalls of walnut, below which the screen is pierced by square windows opening into the crypt underneath. Beneath the choir is a vaulted crypt of Renaissance design, opening on the east into a circular chapel 46 ft. in diameter, lighted by openings from the choir aisle, and decorated with great richness, the vaulted ceiling supported by Tuscan columns. On the west of the crypt is the equally rich chapel of S. Carlo Borromeo, with his tomb in the centre, above which is an opening in the floor of the nave which permits the interior of the chapel to be seen. On the two easternmost piers of the four which support the central dome are two circular pulpits of bronze, supported by terminal figures, covered with canopies encircling the piers, and enriched with bas-reliefs. The pavement is rich and beautiful, composed of colored marbles in elaborate geometrical patterns. The surfaces of the vaulting are painted in imitation of tracery. No church plan in Italy has so much the character of the

northern Gothic as this. Yet the breadth and freedom of its treatment and the splendor of its materials and decoration are wholly Italian. So also is its section, which, with its low clerestories and the slight diminution in the heights of nave and aisles, offers a typical contrast to that of a northern cathedral. The effort to avoid the crowding piers and complicated plan of a northern Gothic east end has expanded the parts about the choir to a degree that not only makes this end look bald and primitive in design, in spite of the rich windows, but puts it out of scale, both without and within, with the rest of the church. The dimensions are very imposing. The nave is 60 ft. wide between the centres of its piers, the aisles nearly 30 ft. ; the total interior breadth is thus about 180 ft., while the total length is about 450 ft.; and the length of the transept 240 ft. The crown of the nave vault is 145 ft. above the pavement, which is almost exactly the height of the nave of Cologne and the choir of Beauvais. The inner aisles have a height of about 90 ft., the outer about 70 ft. The interior has thus a combined height and amplitude which make it one of the most impressive in the world. The resemblance to a northern cathedral, which the interior shows, is not to be traced on the exterior. The clerestories are so low as to be scarcely visible above the high roofs of the aisles, and the continuous slope of the flying buttresses over both aisles, with the similar slope of the screen-like façade of the west front, gives a sprawling effect to the mass, as far removed as possible from the outline of a northern Gothic church. The high side walls are divided by shallow straight buttresses terminating in pinnacles of enormous height. These pinnacles are repeated on each clerestory, and continuous flying buttresses connect them with an arch over each aisle. The central lantern or dome over the crossing, an octagon about 55 ft. long and 45 ft. broad, rises vertically some 50 ft. from the roof of the nave, surrounded by eight buttresses terminating in pinnacles, from which flying buttresses with concave ramps spring to the base of a slender *flèche* that forms the termination of the lantern, rising to the height of about 340 ft. above the pavement, and crowned by the statue of the Madonna. Double and single buttresses divide the façade, which is more modern, into five vertical compartments corresponding to the nave and aisles. From these compartments panelled gables and half-gables are cut off by horizontal cornices and balconies between the buttresses at the height of the corresponding roofs, but all finish in a parapet which makes a continuous slope as of a single gable from the apex to the angles of the front. In the upper part are three broad pointed windows; below are Renaissance windows and doors in two stories, all enclosed between pilasters and pediments. Throughout the whole work the decoration is carried to an extraordinary extent. The walls are everywhere of white marble, and except on the west front, walls as well as buttresses are divided into vertical panels with traceried heads by wiry ribs which merge in a lace-like parapet, following the eaves over each clerestory. The buttresses have cusped, gabled, and pinnacled niches at mid-height, the pinnacles are as lofty as spires and of unparalleled richness of ornament, capped with statues, and enclosing often in their niches a dozen or more of smaller figures. The upper line of the flying buttresses is marked by a pierced parapet of quatrefoils, above which is a fringe of inverted cusped arches with a close row of sculptured finials. The number of statues on the exterior has been variously reckoned at from two to four thousand. With all its richness of material and all its profusion of ornament, the exterior of this great church fails to produce the effect of greatness which is felt in many churches of far less importance.

Its richness is frittered, its majestic proportions are concealed, and it fails to realize the characteristic excellencies either of the northern or the southern type of the Gothic cathedral. Italian resistance to northern ideas is shown throughout the church in the effort to avoid sharply pointed arches and dominating vertical lines, to preserve wall-surface and to enforce horizontal lines; the northern influence in the net-work of upright panelling, the struggle of the vertical principle for recognition, the character of the tracery, the profusion of pinnacles, gablets, and flying buttresses. The earliest church on this site goes back to 390; it was rebuilt in 836, and again destroyed and rebuilt, until, in 1385, the foundation of the present church was begun, under Gian Galeazzo Visconti, Duke of Milan. Much controversy has been maintained as to its architect. The northern influence was too evident to be denied, and, in view of this, out of the crowd of men recorded as in charge of the work, the plan at least has been commonly assigned to Heinrich von



Fig. 108.—Milan, Cathedral, and Tower of S. Gottardo.

Gmünden. One Simone d'Orsenigo was, however, named as *director laborum*, also a Frenchman named Nicholas de Bonneaventure, and Marco da Campione, who died in 1390, and all of these appear to have had an earlier connection with the work than the German architect. As early as 1397 the nave was partly roofed, and in 1418 the choir was consecrated by Martin V. As the work went on, fears were entertained that the central piers were too weak to support the dome. Brunelleschi was consulted in 1430, but the work on the dome was not begun till near the end of the century. In 1567 Pellegrino Pellegrini was called from Brescia as architect of the façade, which was begun in the Renaissance style. The work made slow progress, and in 1638, during a visit of the King of Spain, one Buzi, who accompanied him, protested against the change of style and submitted two Gothic designs, one of which was accepted, and Buzi remained in charge of the work till his death in 1658. The Renaissance doors and windows of Pellegrini were, however, suffered to remain. The façade was unfinished at Buzi's death, and several designs then made for its completion are preserved, among them one with two great square angle-towers projecting both from the front and sides. It was finally completed by order of Napoleon in 1806–13, from the designs of Amati. This façade has always been a reproach to the cathedral, and lately a competition has been held among various architects for a design for a new front. The first prize was given to Brentano of Milan, who, however, died in 1891. (*See Figs. 108, 109.*)



Fig. 109.—Milan, Cathedral, Interior.

OSPEDALE MAGGIORE, or GRANDE (the Great Hospital), one of the most remarkable buildings of Milan, was founded in 1456 by Duke Francesco Sforza and his wife, at a time when the Gothic style was passing out of use, but some of its spirit was preserved in the design by Filarete. The project was on an imposing scale, comprising a great central court 240 ft. by 225 ft., with wings on either side covering each a space about 340 ft. square, and composed of rectangular masses of building, enclosing four courts about 90 ft. square each. Of this vast design only the north wing was carried out under the Sforzas; but toward the end of the XV cent. Bramante added an arcade which formed one side of the great central court, and the remainder of the court was built in 1621 by Ricchini, substantially in ac-

cordance with Bramante's design. It is surrounded by two stories of arcades on columns Ionic below, Composite above, originally entirely open, but later blocked on two sides in the upper story with square windows. Over each of the two stories runs an entablature, richly decorated, as are the spandrels and soffits: the upper cornice projecting boldly on corbels. The remaining portions of the original plan were successively completed under various architects. The street front measures some 900 ft., of which the central portion in front of the great court, about 250 ft. long, is built in accordance with the original design of Filarete. The lower story, standing on a high basement, consists of a wall-arcade of round arches on stout three-quarter columns, and enclosing pointed windows each with two sub-arches and a dividing column, encompassed by a broad border of rich sculpture. All the spandrels are filled with roundels enclosing busts in high relief. A high frieze charged with reliefs separates the two stories, of which the upper has a plain wall with windows like those below, set in square panels. The profuse decoration of this façade, like that of the great court, is all executed in terra-cotta, and is one of the most notable examples of the perfection which the Italians attained in the use of this material. In the centre of the front is interpolated an entrance like a triumphal arch with two engaged Corinthian orders, awkwardly finishing with three kinds of pediments one inside the other. A plain attic story has been added to the façade in recent times, quite out of keeping with the older architecture. (*See Fig. 110.*)



Fig. 110.—Milan Ospedale Grande Court-yard.

PALAZZO MARINO, a sumptuous palace of great extent, built from the designs of Galeazzo Alessi about 1560, by Tommaso Marino, a wealthy banker of Genoa, in the service of the Spanish Government, by which it was confiscated, and from which it passed into the hands successively of the Empress Maria Theresa and of the municipality of Milan. The palace covers an area about 275 ft. square, with façades on four streets. Of these the principal is in three high stages, each ornamented with an order of pilasters, those of the first and second stories Doric and Ionic respectively, that of the third story with *hermes* or terminal pilasters and a richly decorated cornice. The great interior court is surrounded by two stories of arcades decorated with extravagant richness, and the great hall which opens from it is perhaps even more overloaded with ornament, though it is still incomplete.

PALAZZO (LOGGIA) DEGLI OSII. A façade with a two-storied loggia—remnant of the XIII cent. Palazzo Pubblico. Below are five broad round arches on piers renewed in 1650. Above, slender grouped

columns carry pointed arches, formerly open, now filled with modern windows, and standing on a panelled belt decorated with armorial shields. The third story was a gallery in five groups of three round arches, the end groups now built up, the others occupied by statues, of the XV century. Next it are the former Scuole Palatine, with a graceful arcade of coupled columns and second story of enriched windows, crowned by a bare modern attic. (*See Fig. 111.*)

The PALAZZO REALE (Royal Palace) stands on the site of the old mediæval palace built by Azzo Visconti in 1330, of which nothing remains but the choir and tower of the chapel, now known as S. Gottardo (*q. v.*). The old buildings were removed partly by Gian Galeazzo Visconti, to make room for the cathedral; near 1580 what remained was substantially rebuilt in the style of the Renaissance by Ambrogio Piscina, and in 1771 a final restoration under Piermarini brought it to its present condition. The palace is of irregular plan, covering an immense extent of ground, with its principal front facing the south flank of the cathedral. It is about 230 ft. long, in three stories, the first a basement of rustic masonry, with arched entrance in the middle, the two upper stories embraced in an order of flat Ionic pilasters, with a prominent cornice, the centre slightly broken forward, with engaged columns and a high panelled attic. The interior contains many state apartments sumptuously adorned, but of no architectural interest.

S. AMBROGIO (St. Ambrose), is perhaps the most interesting of Lombard churches in Italy, historically and architecturally. It may be called a typical Romanesque basilica, with atrium or fore-court, narthex, nave, aisles, and tribune, great central lantern, but without transept, and flanking western towers. Its total length is about 390 ft., its breadth (which is uniform throughout, the lines of the aisle-walls continuing those of the atrium) something less than 90 ft. The atrium is



Fig. 111.—Milan, Palazzo degli Osii and Scuole Palatine

a grand open court about 46 ft. wide and 118 ft. long, enclosed by groin-vaulted arcades of round arches, carried on grouped shafts with low capitals of extremely varied design, strongly Byzantine in character, from which slender engaged shafts with base and capital rise through the spandrels to an arched corbel-table and a simply moulded cornice. The atrium is faced by the great façade of the church, covered by a single unbroken gable of low pitch, under which are the two open arcades of the narthex. The lower arcade is essentially a continuation of those of the atrium. Over it is a vaulted gallery with five arches corresponding to those below, but graduated in height to follow the rake of the gable. Each of these divisions is occupied by a single round arch; the arches spring from grouped shafts, matching those of the atrium, but of greater richness and variety, and with richly sculptured archivolts. The rear wall of the narthex and west wall of the church is pierced in the first story by

three doorways giving access to nave and aisles, and in the second by three large round-arched windows under the nave vault: upon which the nave, having no clerestory, depends for light. The front is flanked by two square campaniles varying much in design, and of widely different ages, that on the south, very plain, being presumably contemporaneous with the oldest existing portions of the church, while that on the north belongs probably to the XII century. The great central lantern is one of the most striking external features of the church. It is of the full breadth of the nave, about 48 ft. externally, and shows above the roof an octagon of two stories of arcaded galleries, the upper arches much larger and higher than the lower, under a rich cornice with intersecting arches, crowned by a low pyramidal roof. In the interior, the nave is considerably more than twice as broad as the aisles. It is divided into four bays by massive grouped piers with flat pilasters toward nave and aisles, from the capitals of which transverse round arches cross the nave and aisles. Between the great piers are smaller intermediate piers, carrying two rather low round arches to each bay of the nave. Arches also cross the aisles from the intermediate piers, nave and aisles being thus divided into square bays, two to one, covered with simple four-part vaulting, the vaults of the nave having strong square diagonal ribs of brick with occasional stone voussoirs, while those of the aisles have none. Above the aisle vaulting is a gallery, opening into the nave by arches precisely similar to those below, but lower, vaulted like the aisles below, and lighted like them by windows in the external wall. Over the fourth and last bay of the nave rises the octagonal lantern, its diagonal faces carried on squinches. The vertical wall, though high outside, is low inside and pierced by a single round-headed window in each face. The pointed dome is without cornice or other architectural feature, is decorated with frescoes of the XVI cent., and has a window in each face just above the spring. The choir opens from the nave by a single round arch as broad as the other transverse arches and lower. It has a shallow oblong bay covered by a barrel-vault, and a round apse with a hemispherical dome, lighted by three round-headed windows. The circular wall was formerly lined with marble benches for the clergy, in the centre of which was raised the *cathedra* or bishop's chair. The chair remains — a rude seat built up of stone masonry, covered by a marble slab, and enclosed on either side by similar slabs, on each of which is the figure of a lion. The benches were displaced in the XIV cent. by wooden canopied stalls. The original decoration of the choir was elaborate. The hemispherical vault of the apse still retains its splendid mosaic on a gold ground, dating from 880. A similar decoration covered the wall between the windows, of which only a trace remains. The same may be said of the frescoes with which the remaining walls of the tribune were adorned. The floor of the choir is raised about 9 ft. above that of the nave, and beneath it is a crypt, dating from 784, but repaired in 1200, divided into five vaulted aisles by columns of red marble, with black marble Doric capitals, and opening into the nave by low round arches, two on either side of the high altar. The lower tribune is divided from the nave by a platform—still higher by several steps than the pavement of the nave—upon which stands the high altar, a superb example of goldsmith's work, of which the four faces are panelled, the panels filled with figure subjects in relief, and the whole lavishly adorned with gold, enamel, and precious stones. Over the altar is a baldacchino or ciborium, which is one of the most notable works of the kind in existence. It consists of four columns of polished porphyry,

whose bases are beneath the present pavement of the church, with capitals of white marble, joined by stilted round arches, surmounted by a high gable on each face, and enclosing a groined vault, of which the thrust is met by iron tie-rods. The arches and gables are executed in rough masonry and covered with stucco, but the decoration of this stucco—of the archivolts and soffits of the arches, the pilasters at the angles, the groups in bas-reliefs under the gables, the birds on the abaci of the capitals—is to be ranked among the most admirable works of mediæval art. All is reinforced with gold and color, which has recently been renewed as nearly as possible in accordance with the original. Scarcely less remarkable than the ciborium and altar is the white marble pulpit, which is set against one of the northerly piers of the nave. It rests partly on an ancient sarcophagus, presumed to be of the IV cent., and partly on seven slender columns carrying round arches. The pulpit is covered with sculpture, representing an immense variety of men and animals, of which the character is so vigorous and telling, and the action so full of Gothic energy and vivacity, as to place the work in the first rank of early mediæval art.



Fig. 112.—Milan, S. Ambrogio.

The original church, from which the present basilica has grown by successive rebuildings and additions, was built by St. Ambrose, and by him consecrated in 386. It is said that he caused his tomb to be prepared under the altar, and the sarcophagus which stands under the altar of the present church is popularly supposed to contain his remains. From the IV to the VIII cent. the history of the church is not known. It was probably destroyed and rebuilt, and portions of the present structure (as the

apses and the bays next them) probably date from Archbishop Angilbert II., be-



Fig. 113.—Milan, S. Ambrogio, Interior.

tween 824 and 859. The atrium, according to a sepulchral inscription, was built under Anspertus, between 868 and 881, the northern tower in 1129. It has been believed by most authorities, including Dartein, that the church as we see it is mostly the work of Anspertus, but the latest, Cattaneo, argues plausibly that it is from a later rebuilding in the XI cent., and that the atrium is a half century later than the nave and aisles. In 1196 portions of the roofs of the nave and choir fell in, causing a partial destruction of the body of the church. When the rebuilding was undertaken, the central lantern was added. In 1631 the atrium, which had become ruinous, was repaired. Since 1870 the whole church has undergone a thorough restoration. (*See Figs. 112, 113, 114.*)

S. Carlo Borromeo, a Renaissance church begun in 1838 from the designs of Amati. Its plan is a circle 105 ft. in diameter, covered by a dome of the same diameter, 120 ft. high, crowned with a lantern, and lighted by two stories of windows. The walls are adorned by an order of Corinthian columns of red marble. The church stands at the base of a square court of which the sides are formed by commercial buildings five stories high. A Corinthian colonnade is carried round this court; a portion of it is broken forward to form a façade for the church, making an octostyle portico, with a pediment charged with sculpture, above which, and quite overwhelming it by its size and height, rises the great dome surrounded by Corinthian pilasters, the intervals filled alternately by square windows with flat caps, and circular niches enclosing statues.

S. Celso is but a fragment of a X or XI cent. Lombard church, which replaced an earlier one. The greater part of the present building was demolished in 1818 to open the south

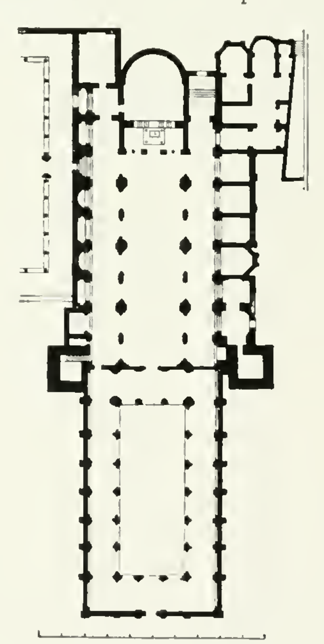


Fig. 114. Milan, S. Ambrogio, Plan.
Scale of 100 feet.

side of the Church of the Assumption. The apse with one bay of the nave was

spared, and a new front was built across the west end, in which was preserved the old central doorway of the original façade, with some admirable sculpture. The high square tower, of brick with stone angle-quoins, standing at the east end of the south aisle, also belonged to the old Lombard church. The nave originally consisted of three bays, divided by grouped stone piers, with four faces of square pilasters, from which transverse and longitudinal round arches were carried across nave and aisles and to intermediate nave piers. Transverse arches subdivide the aisles into square bays, two to each of the nave bays, those of the aisles being covered with four-part vaults, and those of the nave by barrel-vaults. The apse, rather less than a semicircle in plan and lighted by three windows, has an arched corbel-table under the cornice, which is surmounted by a semi-dome. The interior, with the exception of the piers, is wholly of brick. The sculpture of the capitals is interesting—its character is Byzantine, foliage and classic details being mingled with figures of birds and animals in vigorous action as at S. Ambrogio.

S. Eustorgio, one of the oldest of the Lombard churches, but largely restored in modern times; a simple basilica of brick, about 215 ft. long and 75 ft. broad. The façade, which was rebuilt in 1863–65, but in which the old architecture is substantially adhered to, has a single low gable, with arcaded cornices. Two square stone buttresses half as high as the front divide the lower portion into three compartments with three round-arched doorways, of which the middle one has a gabled porch. Over each doorway is a two-light round-headed window, and in the central division are two similar single windows. The south side shows a succession of low gables and chapels. The eastern apse has square buttresses with large windows between, and behind it is a large square chapel dedicated to St. Peter Martyr, with angle pinnacles and a cupola or lantern, built in 1460 by Michelozzo Michelozzi. A tall, slender, brick campanile, divided into six stories by arched corbel-tables, with two-light windows in the belfry, and a sharp spire, stands at the S. E. angle of the church. The interior, which has been repeatedly restored and modernized, is full of irregularities. The nave, about 40 ft. wide, is in eight bays—the piers varying greatly in form, but for the most part grouped—a shaft or pilaster toward nave and aisle, from the capital of which a round transverse arch is thrown across, two others which carry the round nave arches, and square members in the angles which run up to take the diagonal vaulting-ribs. The aisles are of different heights, the arches of different forms, and built some with brick only, some with occasional stone voussoirs. The nave vaulting dates from the XIII cent., the roof having been originally of wood, while the aisles were



Fig. 115.—Milan, S. Eustorgio, Chapel of St. Peter Martyr.

probably vaulted from the first. From the east end opens a central tribune in one square vaulted bay, terminating in an apse, and the aisle bays are extended under continuous vaults into side chapels. The tribune was originally level with the nave, but the building of a crypt in 1537 caused the floor to be raised. The original church is said to have been founded by Eustorgius himself, who occupied the chair of Milan from 315 to 331. It was probably rebuilt in the IX cent., and the apse may date from that time; the body of the church is less old. The campanile was built 1297–1309. The church contains many interesting tombs, notably that of Peter of Verona, by Balducci of Pisa, dating from 1339, which formerly stood in the middle of the nave, but is now under the dome of the chapel of St. Peter Martyr. Traces of paintings have been found on the nave-piers. (*See Fig. 115.*)

S. Fedele, a Renaissance church built between the years 1569–1579 for the Jesuits, by Pellegrino Pellegrini, called Tibaldi, under the authority of S. Carlo Borromeo. Its plan is extremely simple—a rectangular hall about 62 ft. wide and 114 ft. long, its walls decorated with an order of composite pilasters in the intervals of which are shallow arched recesses. The length of this hall is divided by detached columns of polished red granite and a transverse arch into two nearly square bays, covered with very low domical vaults. The square choir is covered by a hemispherical dome raised on a high tambour. The whole interior is richly decorated. The exterior is in two stages, each consisting of an order of engaged composite columns and pilasters, on a high pedestal course. The façade has a high central doorway, a large window over it, and all the other intervals filled with much decorated niches, panels, or bas-reliefs, for the most part in questionable taste. The façade, left unfinished, was added as late as 1835 by Pestagalli.

S. Gottardo, an interesting fragment of the old chapel which was incorporated in the early palace of the Visconti, built about 1335 and afterward altered into the present Palazzo Reale (*q. v.*). The chapel, perhaps a century and a half older, was of the Lombard style, built of brick with terra-cotta ornaments. The portions which remain are the apse of the choir, octagonal, with small angle shafts, an arcaded gallery at the top of the wall, with narrow round arches without columns, covered by an octagonal roof crowned by a lantern—and a fine tower on its south flank, also octagonal, with angle shafts running through its whole height, divided into many stages by string-courses of intersecting arches. A double arcaded gallery encircles the head of the tower, above which rises a smaller octagon in two stages, the upper with an open arcade, crowned by a conical spire. The tower was probably Lombard, but considerably altered in the XIV century. (*See Fig. 108.*)

S. Lorenzo, one of the most ancient and important churches in Milan. Its origin is doubtful and has been the subject of much controversy among archæologists, but there is little doubt that in whole or in part it was in its earliest form a rebuilding of an old Roman monument. It is approached from the modern street under a colonnade of sixteen Corinthian columns, presumed to form a part of the portico of the old Roman Baths, built toward the end of the III century. From this portico one passes into a square atrium or forecourt, of which the surrounding arcades have wholly disappeared, and of which the farther side is occupied by the front of the church. Its plan is essentially a square of 75 ft. with semicircular apses or tribunes on four sides, and the corners cut off between by arches, making an octagon of unequal sides, and leaving triangular recesses in the corners. A two-story vaulted aisle is carried round the whole, following the outline of the plan and separated from the central space by colonnades—Doric be-

low and Ionic above—an arrangement so much resembling that of the Byzantine church of S. Vitale at Ravenna, as to have led some authorities to consider the two buildings contemporary. The opening of the apse on each side is covered by a round arch, above which a Doric cornice encircles the octagon. From this cornice springs a high octagonal dome with a window in each compartment. The dome has been several times destroyed and rebuilt, and at each rebuilding has suffered a change of form. Four small square towers, standing at the angle of the original square of the hall, unite the exterior walls of the circular aisles. The preponderance of authority seems to indicate the IV cent. as the date of this interesting monument. Under the Lombard kings of the VIII cent. it was decorated with great splendor—its roofs and towers blazed with gold, and its interior was adorned with precious stones. It was partially burned in 1070; in 1104 the dome, with a portion of the walls, fell in; in 1124 a second fire partly destroyed it, in 1575 the dome and vaults again fell, after which the church took the form in which it now exists. Opening from the circular aisles on three sides (the western entrance occupying the fourth) are three detached chapels of early date, doubtless built up from the foundations of apartments in the Roman buildings supplementary to the great hall. The most important of these is the Chapel of S. Aquilino, a vaulted octagonal building about 40 ft. in internal diameter, with niches alternately square and round occupying each side of the octagon, and built in the thickness of the walls, which is about 11 ft. Between the crown of these niches and the spring of the dome is a gallery, also built in the thickness of the wall and opening into the chapel by a broad arch on each side. The dome is low, octagonal, and about 60 ft. high from the pavement. On the exterior is an arcaded gallery masking the dome, similar to those of the central lanterns in the Lombard churches, but without columns, the arches carried on brick piers. Buttresses of slight projection reinforce the angles. The roof is conical and low. The dome and vaults were originally covered with mosaics, which were still perfect as late as the beginning of the XVII cent., but of which only a few fragments now remain. This chapel is presumed to be as old as the V century. On the north side of the church is the Chapel of S. Sisto, somewhat similar to S. Aquilino in plan and general construction, but much smaller and lower and without galleries. On the east is the Chapel of S. Hippolito, cruciform in plan within, octagonal without, and covered with a groined vault. Four angle-shafts carry the arches which enclose the four-part vault. The date of this chapel is doubtful. Various later additions surround and obscure the original form. (*See Fig. 116.*)



Fig. 116.—Milan, S. Lorenzo.

The Columns of S. Lorenzo are the most conspicuous memorial remaining of the Roman Mediolanum. They consist of sixteen time-worn fluted Corinthian columns of white marble, 29½ ft. high, and are held to be part of a colonnade belonging to the Baths of Maximian, dating from the III century A.D. Portions of ancient walls still visible in the church doubtless belong to the same baths.

Sta. Maria del Carmine, a Gothic church of the Carmelites built about the middle of the XV cent., and repeatedly altered and restored. It has a nave of three square double bays, covered by four-part vaulting springing from heavy piers, and subdivided by intermediate piers corresponding to the bays of the aisles. The transept is like the nave, and the raised choir is in two narrow vaulted bays, terminating in a round apse. The front has been rebuilt in a poor neo-Gothic style.

Sta. Maria presso S. Celso, a Renaissance church founded by Philip Visconti, the last duke of the name, and remarkable for the sumptuousness of its materials and decoration. The church is preceded by a square arcaded atrium in the style of Bramante, faced with an order of engaged Corinthian columns on pedestals. The outer front wall of the court has an order of flat Corinthian columns, coupled on pedestals. In the rear is the west front of the church, an extravagant composition overloaded with ornamental features dating from the XVI cent., and attributed in whole or in part to Galeazzo Alessi. The interior has a broad nave covered by a barrel-vault, richly panelled and decorated, and aisles groined in square bays, round nave-arches springing from square piers faced with an order of engaged Corinthian columns with bronze capitals, supporting a continuous entablature above the arches. The crossing is covered by a polygonal lantern with a low drum, an external open gallery and a low polygonal roof, but finishing within as a decagonal dome. Two smaller domes of similar form cover the arms of the transept. The choir has a polygonal end, and the aisle is carried round it. The walls and pavement are faced and inlaid with rich marbles.

Sta. Maria delle Grazie, a late Gothic church of brick with Renaissance transept, choir, and dome. The earlier portion, which, however, antedates the later only by about thirty years, consists of a nave without clerestory but with two aisles, each with a range of chapels opening from it. The façade has a single broad low gable, and is divided into five compartments by plain pilaster-strips, ending in an arched corbel-table which follows the rake of the roof. In the three middle compartments are bad Renaissance doorways, in the four side compartments pointed windows. Over the central doorway is a large round window, and above are five smaller ones following the slope of the eaves. The side elevations have in each bay two simple pointed windows with a round window crowded between their heads. But the noteworthy feature of this church is the great central lantern or dome, rising from a low, square tower, which occupies the whole breadth of nave and aisles. From the north and south walls of this base project round apses, and from the east wall a square choir, also terminating in an apse. The walls are divided by pilasters into panels, and are finished above the ridge of the nave roof by a classical cornice. The great dome which covers the choir is masked outside by a sixteen-sided lantern with an open eaves-gallery and low pointed roof, the transition from the square tower below being broken by small apses or oriels at the angles. All this portion of the church is the work of Bramante at the end of the XV century. The walls are much decorated, particularly those of the apses and choir, which are enriched with pilasters and cornices, candelabra-columns and panels and medal-

lions with sculptured heads. These enrichments are for the most part executed in stone. The interior shows a nave and aisles of seven bays, square in the aisles and oblong in the nave, all vaulted, with a line of low vaulted chapels opening from each aisle, with windows in the outer wall. The nave and aisles open by pointed arches into the great square choir, which is quite undivided, and is covered by the hemispherical dome. The chancel is in a single square bay covered with a groin-vault and terminating in an apse with a semidome. A long sacristy opens near the end of the north aisle, which has on the doors of a series of presses which contain the vestments of the priests, some remarkable paintings by Bernardino Luini; and on the end wall of the refectory connected with the church is all which remains of the *Cenacolo*, or Last Supper, by Leonardo da Vinci. The church belongs to the last quarter of the XV cent.; it was projected in 1464, says Mothes. (*See Fig. 117.*)

S. MAURIZIO (or Monastero Maggiore), a small Renaissance church formerly attached to the great monastery, by which name it is sometimes known. It was built about 1500 by Dolcebuono, a pupil of Bramante, and consists of a rectangular nave with a double order of Doric pilasters, the lower enclosing rectangular arched recesses or shallow chapels, the upper in each bay three openings divided by Corinthian columns with a centre arch opening into a gallery running round the whole church over the chapels. The interior is covered by a groined vault, decorated with frescoes, and divided by a panelled screen rising to the height of the upper cornice, painted by Luini.

S. NAZZARO MAGGIORE, an ancient church founded by St. Ambrose in the IV cent., but substantially changed some centuries later. Its plan consists of a nave of two square groined bays, projecting transepts each with a single oblong bay and a round apse, and a choir of similar disposition to the transept, the crossing being covered with an octagonal dome something over 80 ft. high from the floor. Attached to the west end of the church is a Renaissance vestibule, square without and octagonal within, of the full breadth of the nave and covered by a dome, on the walls of which, above the doors, are eight sarcophagi of the Trivulzio family. A similar chapel dedicated to St. Catharine is attached to the west wall of the nave, and at the N. W. corner is a square clock-tower.



Fig. 117.—Milan, Sta. Maria delle Grazie.

S. Satiro is a Renaissance church of the XV cent., ascribed to Bramante and built on the foundations of a Lombard church dating from 869, portions of which still remain. The plan is incomplete, forming a Latin cross without the choir arm. There is a short nave of five narrow bays, with side aisles—a transept with one side aisle, and in the eastern wall of the transept a shallow recess containing the altar. The nave is covered with a panelled barrel-vault, and the aisles are groined. The square piers carry round arches in the intervals of an order of Corinthian pilasters with richly decorated entablature. The crossing is covered with a hemispherical dome, showing outwardly as a round lantern with a low conical roof and cupola. The interior ornaments are in stucco and have much delicacy and refinement. The exterior of brick has an

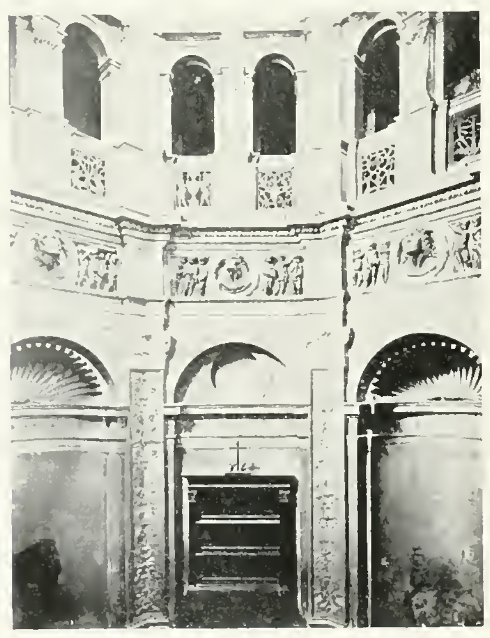


Fig 118.—Milan, S Satiro, Sacristy.

order of flat Corinthian pilasters with a light entablature, low attic, and conspicuous lantern. The sacristy in the angle of the south aisle and transept, undoubtedly an early work of Bramante, is an octagon about 21 ft. in diameter with niches on four sides and square recesses on the other four, enclosed in an order of Corinthian pilasters with a high entablature. A second story of similar design is covered by a high elliptical dome with a tall cupola. The sacristy is considerably higher than the church, and lavishly decorated. The ancient chapel of S. Satiro opens from the north transept, standing oblique to the church, and is a square of about 20 ft. with four columns in the centre supporting an octagonal lantern, and semicircular niches opening from three sides. It is believed to be part of the old church of the IX cent., but its exterior is modern. The tower which rises near it, doubtless the original one, is strongly Lombard in character, in four stages with pilaster-strips ending in arched corbel-tables and small round-headed windows. (*See Fig. 118.*)

La Scala, one of the largest and most celebrated theatres in Europe, begun in 1776 from the designs of Piermarini, and completed in 1778. Its plan is a rectangle 130 ft. wide and 320 ft. deep, the depth being almost exactly divided between the auditorium, with its accessories, and the stage. The plan of the auditorium is a horseshoe, measuring 87 ft. in its greatest width, 105 ft. in depth from the curtain, and 65 ft. in height, with seven ranges of boxes. The width of the curtain opening is 49 ft. Small cabinets corresponding to the boxes line the outside of the corridor, which two staircases divide into three nearly equal parts; and a *foyer* or saloon, 20 ft. by 80 ft., over an entrance hall of the same dimensions, opens from the rear of the principal range of boxes, the front of the building being occupied by apartments for the administration. The architecture of the façade is an order of coupled Corinthian columns, between a basement of rustic work and a

high attic surmounted by a balustrade, with a pediment over the central portion.

The VILLA REALE is a modern palace built in 1790 by an Austrian architect of the name of Polack for the count Belgiojoso, but now belonging to the crown prince of Italy. It is an extensive building with a symmetrical plan, surrounding three sides of a court. The advancing wings have two stories of simple design, the centre, with three, is marked also by a frontispiece of engaged Corinthian columns. The garden façade, much richer, has a rustic basement, and above, an order of Ionic columns and pilasters, embracing two stories and enriched with carving.

MILETUS (Palattia), Caria, Asia Minor.

TEMPLE OF APOLLO DIDYMÆUS. The oracle of this ancient sanctuary was already renowned over a thousand years before Christ. The sanctuary was burned by Darius, and after a more or less complete restoration was entirely ruined by Xerxes. It was again restored after the Persian wars. The style of the existing remains points to the Alexandrine epoch. The temple in its final form was contemporary with those of Ephesus and Magnesia; the design is attributed to the architects Daphnis, of Miletus, and Paionios of Ephesus, the designer of the Ephesian temple of Diana. Vitruvius records an ancient estimate of this temple, with the Artemision at Ephesus, the Sanctuary of the Mysteries at Eleusis, and the Zeus temple at Olympia, as the four most splendid of classical antiquity. It was never roofed; Strabo says that this was because of the enormous span to be covered. The temple remained till the V cent. A.D., and was no doubt overthrown by earthquakes. The cella walls still stand all round to a height of about 10 ft.; they are 9 ft. thick, faced with gray marble and filled with rubble. In the interior they were ornamented with pilasters corresponding with the interior columns; the capitals of these pilasters present a very interesting design —they are of a somewhat Corinthian outline with graceful anthemion ornament. Between the capitals ran a frieze of griffins and lyres. The temple was in plan 159 ft. by 353 ft., measured from axis to axis of the angle-columns; it was Ionic, decastyle, dipteral, on a stylobate of three steps, with twenty-one columns on the flanks. The columns were 6 ft. 4 in. in diameter at the base, and 63 ft. 8 in. high; the intercolumniation was 17 ft. 4 in. The shafts had twenty-four flutes of semicircular section and no decorated necking. The columns of the front had polygonal plinths ornamented with sculpture. Three columns are still standing; two of them still uphold their architrave, the third is unfinished. The shafts are formed of fifteen drums. The architrave is in two slabs, and has an ornamental moulding at the top. The volutes of the capitals were without the connecting cushion. The cella, measuring 97 ft. by 290 ft., is restored (though this restoration is not certain at all points), as having a deep pronaos with four columns *in antis*, then, before the cella proper, an enclosed vestibule, and at the back a chamber divided from the main cella by two antæ with two columns between them. There were probably two ranges of ten columns in the cella corresponding with the pilasters on the walls, and two columns at the front end connecting the side ranges. There was no opisthodomos.

THEATRE, built on the slope of a hill, but not excavated from it. It is entirely of stone, with a surrounding wall; the exterior is cased with marble and enriched with sculpture. In plan it is a little more than a semicircle; the exterior diameter is 472 ft., that of the orchestra 224 ft. The elaborate capitals of the impost pilasters are composite, with Victories introduced among the foliage. Its immense walls can be seen distinctly from Priene, twelve miles distant.

MKES. See *Gadara*.

MODENA, Italy.

CATHEDRAL, a Romanesque church of the XII cent. with many characteristic features. Its dimensions are not very large, the whole length being somewhat less than 200 ft., the whole breadth about 70 ft., the breadth of nave 28 ft. The front follows the interior section, being in three divisions, the nave terminating in a low gable flanked by half gables against the aisle roofs. In the central division is a high round-arched doorway under a shallow porch, with columns resting on lions. The porch has a second story with a broad awkward segmental arch, covered by a very flat gable, forming a shallow niche, in which is a sarcophagus. Above this is a very large rose-window. A doorway opens into each aisle, with a horizontal panel over it filled with figures in relief. An open gallery of smaller arches on columns grouped in threes under enclosing arches runs across the whole front of the church below the level of the aisle roofs, and along the sides through the whole length of the church: the end walls of the transept, which do not project beyond the aisle walls, are carried up above it without preparation or any consonance of design. There are two porches on the south side, one near the western angle and a larger one midway of the aisle. The latter is of two stages, the first stage having a broad round arch on columns resting on the backs of lions, the second three round arches and a low gable. The simple clerestory has small round-headed windows between flat pilaster-strips. The east end is wholly occupied by the three apses of the choir and aisles, the central apse a story higher than the others, and the flat end wall of the choir rising above it, with a small round window, a low gable, and two octagonal turrets at the angles terminating in open arcades and octagonal spires. At the N. E. corner stands a fine square campanile dating from 1319, in six stages, of which the last two appear to have been added at a later date and are perhaps contemporaneous with the spire. The interior plan is in some respects peculiar. The nave and aisles each terminate in an eastern apse, the transept arms are contained within the aisle walls. The nave has four square double bays: the aisles have two bays to each one of the nave. The choir has a central bay enclosed by screens of coupled red marble columns, and aisles on each side. Its raised floor is approached by two flights of stairs against the aisle walls. Beneath the choir is a lofty crypt, with vaulted ceiling supported on small columns, and opening into the nave by an arcade of five openings, the columns resting on animals. The nave piers are massive, with large vaulting shafts rising through the triforium to the base of the clerestory, where their capitals, of rather classic character, are connected by a decorated string-course. From these capitals massive pointed arches are thrown across the nave, and the square bays between are roofed each by a simple four-part vault. Between the nave piers are low round arches, two to each bay, divided by an intermediate round column of red marble with foliated capital. Above these arches is a broad triforium with low bearing-arches of awkward form enclosing groups of three round arches, and above these again are two round-headed deeply splayed windows in each bay. The triforium is here a broad gallery originally intended for the use of the female portion of the worshippers, and opening into the aisles as well as the nave. The church was begun in 1099, and consecrated by Pope Lucius III. in 1184.

MOLFETTA, Italy.

The former CATHEDRAL, dedicated to SS. Maria and Conrado, and dating probably from the later half of the IX cent., is a small church, interesting as an example of the Byzantine influence. It is about 62 ft. wide and 105 ft. long. The nave is of two domed bays on round arches spring-

ing from compound piers with Byzantine capitals. The crossing, which is the choir, is a square bay like those of the nave with a round apse, and is covered by a higher dome, elliptic in section, whose plan is round within and octagonal without. At the bases of the domes are small round-headed windows. The transept ends, which project slightly beyond the aisle walls, have each a flat apse. These apses do not show without, the east wall of the church being straight. The floor of the choir is raised, and beneath is a crypt. Various chapels, some modern, open from each aisle. The western porch has been made into chapels, and the present entrances to the church are on the sides. The square east end has at its base a blind arcade of interlacing arches and a single large round-headed window lighting the apse, which is flanked by two tall slender towers, with three stories of two-light windows, and capped with an arched corbel-table and horizontal cornice. (*See Fig. 119.*)

MONGIOVINO, Italy.

CHURCH OF THE MADONNA, an interesting small early Renaissance church built in 1524–26 from the designs of Rocco di Vicenza. Its plan is the Byzantine one of a Greek cross filled out to a square. It is lined with an order of Corinthian pilasters which carry the barrel-vaults of the arms, while over the centre is a high dome borne on pendentives by four square pilaster-like piers. The choir, opening from the eastern arm, is a miniature barrel-vaulted nave ending in an apse, and lined with a small arcaded order of pilasters. The façades are elegant, faced with a Corinthian order, which is that of the interior set on pedestals, and containing on the transept-ends two handsome doorways in the manner of the early Renaissance. Above, the arms



Fig 119—Molfetta, Cathedral.

of the cross show in a narrowed second story, flanked by scroll buttresses and pierced each by a small rose, but lacking the expected pediment, and ending in a horizontal cornice.

MONREALE, near Palermo, Sicily.

The CATHEDRAL, begun in or before 1187 by William II., the Good, is a three-aisled basilica some 300 ft. long by 120 ft. across the transept, with three eastern bays ending in round apses, which form the choir and adjacent chapels. The front, retreating behind two massive square towers, between which is an open porch,

has been considerably degraded by alterations. The porch is masked by a Doric order over its three arches, the front behind stripped of its decorating arcade: and one of the towers, which have pointed windows divided by mullion-shafts, and are robbed of their tops, is a mere stump. The rest of the exterior is plain, except the east end, which is higher and broader than the nave. Here the three apses are splendidly decorated with three stories of interlacing pointed arcades, bands of mosaic in marbles and bituminous stone, columns, and rosettes. The old atrium before the front furnished the columns for an open arcade built on the north side at the end of the XVI cent., and on the south is a row of chapels against which lies the great cloister of the adjoining monastery. The interior is brilliant with mosaics on gold ground, wainscoting of marble, and painted roofs. The nave, 45 ft. wide, is in eight bays of stilted pointed arches, carried on antique columns of granite, of which many retain their original capitals, while others are renewed. The sanctuary, connected by open arches with the flanking chapels, forms a choir raised above the transept, and against its northern pier is the king's throne, as at Cefalu; the crossing and transept arms are raised some steps above the nave for the use of the monks. The windows of aisles and clerestory are single and pointed, as are the openings everywhere. The open-trussed roofs are richly painted and gilded; above the marble dado, which reaches to the height of the columns, the walls and apses, almost bare of mouldings, and even the stilt-blocks of the columns, are incrusted with mosaic on a gold ground —pictures of saints and angels, subjects from scripture history, and ornamental designs. The choir-screens, altars, and pulpit are rich with perforated marble and geometric mosaic. The cloister is surrounded by an open arcade of pointed arches resting on couples of slender columns, which are grouped in fours at the corners. The shafts are enriched with carving and mosaic; the capitals are endlessly varied, and though probably all contemporary, are Byzantine, Arabic, or Norman in style, according, it would seem, to the men who worked on them. The broad archivolts, whose mouldings curiously overhang the capitals, are banded with mosaic. At one corner is inset a small pavilion with a basin for ablutions. The tradition, not well supported, is that William, when hunting, fell asleep on this spot, and was directed by the Virgin in a dream to build a church and convent here where one had been before in the time of Gregory the Great. Of the Benedictine monastery which he built, all the buildings except the cloister are renewed and without interest. The church remained comparatively unaltered, except by dilapidation, till a fire in 1811 unroofed and damaged the choir. Since then it has been restored with much care and at great expense. The handsome bronze doors of the



Fig. 120.—Monreale. Cathedral.

north and west entrances of the church remain, signed and dated by their makers respectively: Bonannus of Pisa, 1186, and Barisanus of Trani, 1179. (*See Fig. 120.*)

MONTE L'ABATE, Italy.

This MONASTERY, several miles from Perugia, belonged to the Cistercian order. It was erected early in the XIII cent., and was partly remodelled in the XIV century. The church is of a type until then almost unknown in Italy, and was one of the models from which the Franciscans and Dominicans copied their one-aisled vaulted churches later in the XIII century. It consists of one broad nave 110 ft. long by nearly 60 ft. wide, divided into three oblong bays with lofty ribbed cross-vaults supported on engaged five-sided pilasters. The wall-ribs and transverse ribs are pointed. The proportions are colossal, the low vaults starting at an unusual height. The façade is a plain square-topped screen, and is decorated with but one trefoiled pointed doorway and a wheel window, both posterior additions made in 1325. To the same period belongs the pentagonal apse. Beneath the whole church is a fine crypt, divided across into two sections, both covered with cross-vaults: the smaller section, next to the apse, divided into four aisles by columns and covered by twelve groined vaults, appears to be earlier than the church. The larger section of the crypt, 78 ft. long, is divided into two aisles by an immense pier. Its four compartments are covered with fine low ribbed cross-vaults, and are separated by magnificent low transverse arches. A square tower rises at the right corner of the façade: its upper story is restored. In the monastery the most important work is the cloister, 78 ft. square, which was built between about 1220 and 1297. Its two stories are preserved, which is rare. Each side consists of a series of low pointed arches in groups of three, resting on single shafts with undecorated capitals, which alternate with five square piers. This arrangement is repeated on the second story. The material is stone. Although extremely simple, this cloister is eminently picturesque and one of the most effective in Italy. The style of this monastery is an Italian adaptation of transitional Gothic, and is not in the line of Cistercian development represented by Fossanova (*q. v.*) and its kindred monasteries. It has been generally supposed that the type of the single-aisled church was introduced by the mendicant orders, but in this, as in other architectural matters, they appear to have copied from Cistercian models of superior excellence, for the interior of Monte l'Abate is finer than any of their work. [A. L. F., Jr.]

MONTECASSINO, Italy.

This famous MONASTERY was founded as early as 528 by St. Benedict himself, destroyed by the Lombards in 590, rebuilt in 706, and grew gradually in size and importance, until it included several churches, with cloisters, dormitories, refectories, and other accessories, most of which have been several times rebuilt or have disappeared. The little Church of the Crucifix (Il Crocefisso) still remains of the original construction; cruciform in plan, the four arms covered by barrel-vaults which abut against the dome that covers the crossing. A century or two later, perhaps near the end of the VIII cent., the small church S. Maria delle Cinque Torre was built, a square of about 57 ft., with an inner square of 26 ft., surrounded by twelve fluted granite and marble columns with Corinthian capitals bearing round arches, three on each side. From the corners of the inner square, transverse arches spring to the outer wall. The four corner squares thus formed, as well as the central square, are carried up as low towers, the central one being the highest. Three semicircular apses open from one side of the outer square. All ceilings are of wood, and portions of them are painted by Luca Giordano. The walls

also retain traces of paintings of the XIV century. The exterior wall is divided by blind arcades, with seven arches on each side, and an arched corbel-table at the cornice. The towers have a single round-arched window in each face.

S. SALVATORE, the great church, was built originally by Gisulf in 797, but it is improbable that much of its original construction survives in the present building, which dates only from about 1640, and was finished in 1727. It is a Renaissance church, in plan a Latin cross, with a dome at the crossing, a barrel-vaulted nave, and groined aisles. Over the main arcades is a great order of Corinthian pilasters on pedestals. The vault of the nave is pierced with lunettes, and the whole interior decoration is of extreme magnificence in the richness and variety of its marbles. A noble courtyard, with open arcades and a central fountain, is attributed to Bramante.

MONTEFIASCONE. Italy.

S. FLAVIANO, a singular church, founded early in the XI cent. and partially rebuilt in 1262–65 by Pope Urban IV. Its position on a sharply sloping hillside led to the construction of an upper and a lower church, the one entered from the east end, and the other from the west. The plan is a simple rectangle, divided by two rows of piers and columns of various forms and sizes into a nave and aisles of nearly equal width. In the lower church, which has much the effect of a crypt, the piers are low, with capitals of varying design, some grotesque, supporting arches of various heights, some pointed, others round, the bays being covered by a low groined vaulting. The east end of the lower church makes three sides of an octagon, in each of which is a great semicircular niche. The vaulting of two bays of the nave is omitted, making a rectangular opening into the upper church, where nave and aisles are divided by small columns, four on each side, with openings increasing in breadth and height from end to end. The arcades support a blank wall rising to the low wooden roof, which covers nave and aisles in a single slope. The façade is of peculiar design, having a slightly projecting porch over its whole breadth, with three deep pointed-arched recesses divided by stout columns, the middle arch enclosing a doorway. Above the porch is a low covered balcony also extending quite across the front, and a flat gable covering all.

MONTEPULCIANO. Italy.

The CATHEDRAL is a cruciform Renaissance church, of which the original design is attributed to Bartolommeo Ammanati, begun in 1570, finished in 1680, and consecrated in 1710. Its extreme length is 210 ft., its breadth about 125 ft. Its nave is covered by a plain barrel-vault, and is divided from the groined aisles by an arcade of five round arches on each side, springing from square piers faced by simple Doric pilasters carrying an entablature. Nave and aisles open by round arches into a transept with a single groined bay on each arm, terminating in a rectangular chapel. From the crossing, which is covered by a hemispherical dome, opens the choir, a single rectangular bay with round apse, flanked on each side by a rectangular chapel. Similar chapels open from the aisles on each side. The front remains unfinished; it has a square campanile at the northern angle, dating from the middle of the XV century.

MADONNA DI S. BIAGIO, a small but noteworthy Renaissance church begun from the designs of Antonio di San Gallo in 1518. Its plan is a Greek cross about 115 ft. in each direction, with a dome at the centre, raised on a high drum with Ionic pilasters and broken entablature, and round-headed windows and niches in the intervals. The façade and transept ends are much alike; in two stages, with flat pilasters at the angles, a full Doric entablature over the first story, a simple frieze and cornice over the second, finishing with

a pediment; an entrance door in the middle of the first story, a single window over it, both with entablature and pediment. The second story wall is divided into vertical panels. A square detached tower stands in the N. W. angle of the cross, with three stories of engaged pilasters and columns and an octagonal belfry-stage surmounted by a low spire. The interior is without aisles; massive angle-pilasters

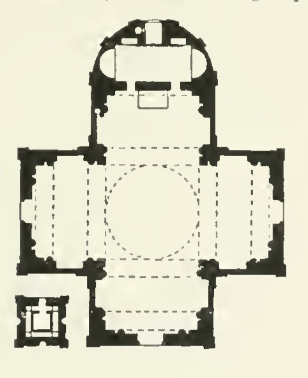


Fig 121.—Montepulciano, Madonna di S. Biagio.
Scale of 100 feet.

with a heavy Doric entablature, support a barrel-vault richly panelled and decorated. East of the choir is an apse, round without, but containing a rectangular sacristy with niches in the ends, shut off by a wall behind the high altar. The interior of the drum is faced with a Corinthian order. (*See Fig. 121.*)

MONTE SANT' ANGELO, Italy.

The BAPTISTERY, dedicated to S. Pietro, is a square, tower-like building, of uncertain but very early date. The interior is especially interesting, its angles occupied by grouped shafts bearing pointed wall-arches, in one of which is the entrance, and under another, opposite, a semicircular apse with pointed half-dome. Over the arches is a vaulted gallery in the thickness of the wall, with three small round arches on each side, springing from broad piers faced with half columns, and with squinches in the angles under the corners of the high dome, which is in plan a square with rounded angles. The dome above the arcaded gallery is divided by string-courses into three stages, of which the first two are conical, and the uppermost is a pointed dome built in horizontal courses, its apex about 70 ft. above the floor, the effect of the whole being that of a high semi-ellipse. In the lowest stage are three small two-light windows in each side, with mid-wall shafts. The sculpture is interesting throughout.

S. MICHELE, the Church of the Archangel Michael, is a subterranean Gothic chapel of the XIII cent., attached to the sacred cavern where the saint is said to have appeared in 491, in a vision, to St. Laurence, Archbishop of Sipontum, and is a famous place of pilgrimage. From a little square of the town a pointed-arched doorway of marble, flanked by two columns on each side, gives access to a descending staircase of fifty-five steps, excavated in the rock, covered by a vaulted ceiling lighted by several openings in the rock above, and flanked by niches with monuments. At the bottom is an open court, on the east side of which is the entrance to the church—a round arch flanked by two pilasters and two columns on either side—the opening closed by fine bronze doors, cast in Constantinople in 1076. The church is rectangular in plan, without aisles, covered by fine Gothic four-part vaulting with strong transverse and diagonal ribs springing, on the south side from triple grouped vaulting shafts which rest at mid-height on the solid rock, which here forms the wall of the church, and on the north side from single shafts. On the south wall opens the cavern, roofed by the natural rock at varying heights, rising in the middle to about 17 ft., with an average breadth of 50 ft., and a length of 57 ft. to 66 ft. It contains the ancient altar to St. Michael, and six modern altars consecrated in 1678. On the north side of the church are two chapels, opening by

low arches, of which one serves as choir. On the east end is a square vaulted chapel, opening by a high pointed arch, and containing the high altar, backed by a rich Renaissance screen. There is a fine early bishop's chair, of marble, resting on two crouching lions, and covered with beautiful decoration in mosaic and bas-relief.

MONZA, Italy.

The Broletto (Town-hall), a small but interesting example of the mediæval municipal buildings of North Italy. It is a detached brick building, measuring about 42 ft. by 64 ft., its first story open to the street, and consisting of high pointed arches of brick springing from plain square stone piers, without caps or impost moulding. A cross arcade through the middle of the building bears the floor of the second story, which is occupied by the public hall. The ends are gabled, the angles reinforced by slightly projecting piers. In the centre of the south front is the *ringhiera* or balcony, from which the people were addressed by the magistrates. On either side the balcony, and above it, is a three-light window with round-headed openings divided by columns and a strong, round bearing-arch with brick and stone voussoirs. The north end is half occupied by a square bell-tower, divided vertically by flat pilaster-strips, and horizontally by string-courses with intersecting brick arches beneath, and with a belfry having two simple pointed openings in each face, the whole crowned with forked battlements and a low octagonal spire. The building probably dates from the end of the XII century.

The Cathedral, an interesting XIV cent. Gothic church, with nave, double aisles, of which the two outer are divided into chapels, transept, and apsidal choir, and measuring roughly about 225 ft. in length and 90 ft. in breadth. Its façade is of peculiar design, built of a yellowish marble, with alternate courses of dark gray. Square buttresses, rising from the ground and terminating in pinnacles, divide the front into five compartments answering to the nave and aisles. The roof gable, slightly broken at each division, has a blank arcade of columns carried on corbels following the slope. The original pinnacles have disappeared excepting one at the south angle of the front, which is extremely graceful, with a canopy of four cusped Gothic arches on columns, and a sitting statue within, surmounted by decorated gables on the four sides and a crocketed spire. The central division of the front has a slightly projecting porch, round arched, with splayed columnar jambs, a tympanum bearing reliefs, roundels in the spandrels with figures, and a horizontal cornice. Above the porch is a rose window of thin tracery, set in a square panel with trefoils at the angles, and enclosed by a border of small square panels with rosettes. This enrichment of square panels is continued by four additional rows above the window, and crowned by a line of small cusped round-arched niches containing statues. The side divisions are occupied by windows of various forms, pointed, round-headed, and circular, of which the larger are divided by columnar mullions into two and three lights, with traceried heads. The remainder of the church is of brick. There is an octagonal lantern over the crossing with two stories of arcades, and a pyramidal tiled roof. The interior has been entirely modernized. It contains many relics of the old Lombard kings—among others the iron crown with which a line of thirty-four of those monarchs were crowned, and which was also used at the coronation of the Emperor Charles V., and of Napoleon. The first church on this site is said to have been finished in 595 ; a new apse was added in the IX century. The church was enlarged, and probably substantially rebuilt after 1311. An inscription on the east end gives a date of 1390. The architect was Marco di Campione, or Matteo Cam-

pigliano. The square brick campanile, 240 ft. high, which stands at the north angle of the front, is of later but uncertain date.

Sta. Maria in Strada, a Gothic church dating from the middle of the XIV cent., of which the interior has been desecrated, and the only interesting part is its west front, a very elaborate example of terra-cotta decoration lately restored. It is a high brick façade of simple outline, with square angle buttresses and a low gable. The lower story is very plain, with a square-headed door whose arch is enclosed in a square panel with a geometrical decorated border. A range of cusped, gabled, and pinnacled arches crosses the front just above the doorway. Above these is a beautifully decorated rose window flanked on each side by a two-light, pointed and cusped window with bearing-arch. All three are enclosed in squares bordered by rosettes in square panels. In the low gable is a central niche enclosing a statue of the Virgin and flanked by two round openings, and over it a very rich cornice of interlacing arches. At the south angle of the façade is a square tower with a belfry stage, with large pointed two-light windows, traceried frieze, and a dwarf spire among four pinnacles. (*See Fig. 122.*)



Fig. 122.—Monza, S. M. in Strada.

MOSCUFO, near Chieti, Italy.

Sta. Maria in Lago, a small early basilica belonging to a monastery established in the VII cent., but much changed by repeated restorations, the last of which was made in 1733. It is rectangular in plan, about 85 ft. long and 36 ft. broad, with flat-ceiled nave and aisles separated by six round arches on each side on columns, the middle one of which has a pair of columns built up into a pier. The nave and aisles each end in an apse, and their three eastern bays, considerably broader than the others, make a raised choir. The exterior is modern, but the front retains portions of the ancient doorway. The church contains a fine pulpit dating from 1159, standing on stout columns which support round cusped arches. The four faces of the pulpit and the spandrels of the arches are covered with figure sculpture, the book rests supported by angels, the staircase approaching the pulpit is of similar character. The sculpture is heightened with color.

MONTE SAN GIULIANO (anc. Eryx), Sicily.

Carthaginian Ramparts, not older than the IV century B.C. On the northwestern side of the modern town the lower portions of the ancient wall survive for a

length of two-thirds of a mile. The blocks, some of them 6 ft. long, bear Phoenician letters as masons' marks. The wall is about 8 ft. thick, and is strengthened with rectangular towers of great projection. Several small posterns of the Phoenician work remain, some covered with a lintel, and some by corbelling out the side stones in a pseudo-arch. The masonry, while not careless, has not the Hellenic evenness and beauty of execution.

MOUNT CHIGRI. See *Neandreia.*

MOUNT HERMON (Jebel es-Sheikh), Palestine.

Temple of Baal-Hermon (?), on the central or second highest summit of the mountain. The peribolos is oval, built of large, well-hewn blocks, the lowest course of which rests on a smoothed bed cut in the rock. On the south side of the peribolos are the remains of a small temple, in part of masonry with margin-draft. Toward the N. E. there is a large grotto, before the mouth of which stood two pillars. A Greek inscription has been found within the peribolos.

MOUNT OCHA, Euboea, Greece.

Temple of Hera Teleia, or of Zeus and Hera, called House of the Dragon by the peasants, considered the most ancient Greek building extant. It is constructed of enormous blocks and slabs of stone. The roof is corbelled in, the inner surface being cut to a smooth slope. An opening twenty inches square is left in the middle. The dimensions of the temple are 41 ft. 8 in. by 25 ft. 3 in. without, and 32 ft. 4 in. by 16 ft. 3 in. within. The height of the walls within is 7 ft. 9 in. In the south long wall is a doorway 4 ft. by 6 ft. 10 in. A bracket projects from the interior west wall, doubtless for the image of the divinity.

MOUNT PTOÖN, Boeotia, Greece.

Acropolis. The ruins date from various epochs, and are in part, especially on the west side, in excellent preservation. On this side, the wall is still about 10 ft. high and 8 ft. thick. There is an attempt to attain horizontal courses—though these are interrupted by larger blocks. In one place a little door in the wall less than 4 ft. square remains; and there are several sally-ports through which the defenders could make a sudden attack upon besiegers. There are some remains of lesser constructions; and lines of more ancient polygonal walls can be traced, leading in the direction of Lake Copaïs.

The Temple of Apollo Ptoös stood upon a terrace of stone on the side of a steep slope. A flight of steps led from the bottom to the top of the terrace. It was Doric, 76 ft. 5 in. by 38 ft. 9 in. The visible portions of the foundations are in Poros; those that were concealed, in the stone of the locality. Some capitals, fragments of the entablature, drums of columns, antefixes in terra cotta, and tiles survive, with traces of decoration in color. The capitals and shafts were coated with a white stucco. A highly interesting and important series of archaic sculptures was found on the site. The oracle enjoyed high repute up to the time of the Macedonian invasion.

MOUNT TABOR (Jebel et-Tûr), Palestine.

Fortifications, of great extent, on the summit of the mountain. The walls are of large stones, with margin-draft, and preserve remains of towers and bastions. They are further strengthened by great ditches, cut in the rock. Toward the S. E. are ruins of a citadel. The remains are undoubtedly those of the fortifications built by Josephus in the first cent. A.D., who himself utilized more ancient works. The crusaders in turn restored the fortress, and left abundant marks of their occupation, as the pointed gateway and the loopholes in the citadel, and several chapels within the enclosure.

MUJELIA, Syria.

One of the deserted towns of northern Syria, with its stone houses and other

buildings well preserved. The basilica is noteworthy for having the arches of its main arcades cut out of two horizontal courses of stone, instead of built up of voussoirs in the usual fashion. There is also a small semi-octagonal church which has similar arcades, and resembles in other respects a Roman theatre, having the central space open to the sky, and the apse and two adjoining chambers under roof in an oblong transverse building like a stage.

MURANO, Italy.

CATHEDRAL (S. Donato), a church of much interest, built perhaps in the X cent., although no authentic record of its building is known to exist. It has been of late years so thoroughly restored by the Italian Government that little remains of the original church save the general disposition and the east end. Its plan is cruciform, with nave and aisles, transept not projecting, and choir and a single eastern apse. The nave arches rest on columns of white and gray cipollino marble with Corinthian capitals, doubtless taken from some older building. The walls are lined with marble in the lower portions, and decorated above with mosaics and frescoes. The apse is covered with a hemispherical vault, which is adorned with fine early mosaics. The pavement of the church is of marbles of various colors, a fine example of *opus Alexandrinum*, and bears an inscription with the date of 1140. The most notable portion of the church is the outside of its east end. The great central apse is polygonal and is flanked by the end walls of the aisles on either side, finishing with half-gables. Two stories of stilted round arches are carried across the whole end, with coupled columns at the angles of the apse and in the second story of the aisles. The columns are of white and colored marble, the arches are of brick in two colors, red in the lower story and yellow in the upper. The arches of the lower story enclose semicircular vaulted niches: in the upper story the wall is set back so as to form an open gallery protected by a delicate balustrade of white marble between the columns. Between the two stories is a double frieze consisting of two lines of upright triangles or chevrons, the lower of white, yellow, red, and green marble carved in various designs; the upper of yellow bricks relieved against the wall of red bricks. The lower band of triangles is carried around the circular head of the windows in the aisle ends as an archivolt. The harmony of colors in this remarkable composition, and the skill with which the effect of richness and elegance is gained with a very sparing use of any but the commonest materials, make this work most interesting. A high square campanile rises from the south wall of the church with tall blind arches of brick in two stories, and a belfry stage with three grouped arches in each face.

PALAZZO DA MULA, nearly the only remaining example in Murano of a Gothic Venetian palace, and interesting from its variety of ornamental detail. It is of brick in three stories, of which the lowest has in the centre a round-arched doorway flanked by two square windows, all of which have evidently undergone considerable alteration. On either side is a single ogee-arched window with pilasters in the jambs and a thin billet-moulding following the line of the arch. The second and principal story has in the centre a fine arcade of four cusped ogee openings, with a projecting balcony. The arches rest on large columns with capitals showing more of the classic feeling than is usual in the Venetian palaces of this type. Above the central column is a niche with a cusped ogee arch resting on square pilasters, enclosing a statue and flanked by slender columns which rest on the finials of the two middle arches, and of which the capitals are of a pronounced Byzantine type. On each side of the arcade is a large and high window enclosed in a square panel

with graceful tracery in the head, and a balcony with square pilasters for balusters. The wall piers of the story are decorated with roundels containing tracery of various forms, with upright panels containing bas-reliefs and with inlaid patterns of colored marbles. The third story is low, with square modern windows and decorative panels set in the wall.

MUSMIYEH, near Damascus, Syria.

The so-called TEMPLE, which was converted into an early Christian church, and has also been called by M. de Vogüé the Pretorium, bears inscriptions which indicate that it was built between 160 and 170 A.D. under Marcus Aurelius and Verus. It is a small building, only about 50 ft. by 70 ft., but interesting for its elegance, and because it is perhaps the oldest example of the typical plan of the smaller Byzantine churches. It had a portico of six Corinthian columns, leading by three doors into a square area, beyond which are the central apse and two flanking chambers that belong to the Greek churches. The square area is marked off by cross-arches into a Greek cross, in the usual way. The spaces between the arms of the cross are flat ceiled with stone slabs, the arms barrel-vaulted with the same material; the central bay was apparently covered by a cloistered dome of rubble. The arches are carried by sixteen Corinthian columns, bearing on impost blocks that rest directly on the capitals; if this is the original arrangement, it is the oldest example of a construction that gave the type to mediæval architecture.

MYCENÆ, Argolis, Greece.

LION GATE. Ruins of primitive and ancient Hellenic civilization are distributed between the acropolis, the lower city, and the surrounding country. They appear to have been very much in their present state since the destruction of both Mycenæ and Tiryns by Argos, 463 B.C. The most important remains are those of the Acropolis. The walls of the acropolis, which form a rude triangle, roughly 1,000 ft. by 800 ft. by 650 ft., are massive, built of large stones, smaller in general, however, than those at Tiryns, some undressed, others polygonal, or squared. At the N. W. angle is the chief entrance, the Gate of Lions. This is approached by a strategic passage 33 ft. wide and 50 ft. long. The gateway is $10\frac{1}{2}$ ft. high, $10\frac{1}{4}$ ft. wide at the bottom, and $9\frac{1}{2}$ ft. wide at the top. The lintel which rests upon the inclined doorposts is $16\frac{1}{2}$ ft. long, 8 ft. through, and more than 3 ft. thick in the middle. A triangular opening left in the wall over the lintel is filled by a slab 10 ft. high, 12 ft. wide at the base, and 2 ft. thick, upon the exterior face of which is the very ancient relief which gives the gate its name, representing two lions or lionesses reared on their hind legs and separated by a pillar of curious form. The heads are gone: they were turned toward those who ap-



Fig. 123. Mycenæ, Lion Gate.

proached, and were probably of metal. (*See Fig. 123.*)

On a terrace within the Lion Gate is a double circle of upright slabs, about 80 ft. in diameter. The two circles were originally joined by horizontal slabs. Within it Schliemann found five large graves with human bones and the remarkable gold ornaments of rude workmanship but able design which have excited active discussion, together with bronze and obsidian weapons, and pottery. A sixth grave, with similar remains, has been since found within the circle. In the N. E. part of the acropolis remains have been excavated of a palace similar to that at Tiryns, but of simpler plan, though more advanced workmanship. A temple was later built over the site of the palace. Remains of rock-steps, cisterns, aqueducts, dwellings, etc., are abundant on the acropolis, in the lower town, and throughout the neighborhood.

Treasury of Atreus, or Tomb of Agamemnon. This is the most perfect one of a considerable number of circular underground tombs in the neighborhood of Mycenæ, with pseudo-vaults formed of corbelling cut to domical shape. The approach or *dromos* is by a walled passage 30 ft. long. The entrance is 19½ ft. high, 8 ft. wide at the top, and 8½ ft. wide at the base. One of the two lintel-blocks is about 30 ft. long, 10 ft. through, and 3 ft. thick. As in the Lion Gate, a triangular opening was left above to relieve the lintel; the slab which formerly filled this is gone. The interior, of beehive shape, is about 50 ft. high and 50 ft. in diameter. The wall was originally ornamented with rosettes of metal fastened by bronze nails. A doorway about 9 ft. high leads to a small square chamber, which was the tomb proper.

Note.—In the neighborhood of the beehive tombs, a number of square rock-tombs with ceilings cut to a ridged form have been excavated. These are later than the former; but the pottery and other objects found in them belong clearly to the same civilization which produced the oldest objects, those from the tombs within the ring on the acropolis. The objects found at Mycenæ are now seen to illustrate a continuous development, from the very ancient acropolis tombs and the later palace to the time of the rock-tombs. In the latter, some pottery of the Dipylon style was found with the earlier objects, together with other evidences of what is known as the Hellenic civilization. The so-called Mycenæan pottery is decorated especially with motives derived from marine animals and plants, together with combinations of spirals and palmettes; and the latter motive, together with more or less elaborate rosettes and bosses, is characteristic in wall-painting and sculpture, and upon the remarkably abundant ornaments and utensils of gold found especially in the earliest graves. The inlaying of some bronze swords and daggers and some silver cups with animal and other designs, in different metals and in variously colored gold, is of remarkable beauty, and points to Egyptian prototypes. The early civilization is plainly that described in Homer, and is closely akin to that of the second city at Hissarlik, though later and richer.

MYLASSA. See *Melassa.*

MYRA, Lycia, Asia Minor.

Theatre, among the largest and best built in Asia Minor. The exterior diameter is 360 ft., that of the orchestra 120 ft. The material is a white limestone, almost as beautiful as marble. The stage-wall, which faces the south, was decorated with polished granite columns with composite capitals of white marble; one of these columns is still in place, the others lie as they have fallen before the wall of the proscenium. The cavea had two groups of seats, twenty-seven tiers in the lower, and twenty in the upper. All the masonry is of the finest construction, laid without mortar.

There are fine remains of several public buildings, besides the theatre. The rock-necropolis is of much interest: the tombs are generally large and formed of several intercommunicating chambers, and their exterior decoration includes figure reliefs.

Fig. 124.—Naples, Alfonso's Arch

MYTILENE, Lesbos, Ægean Sea.

Aqueduct of Roman date, built of marble where above ground, with evidences of Byzantine restorations in brick. The ruins of the raised parts, particularly of the bridges of Paspala and Moria, are the most important on the island. The chief bridge, that of Moria, is 464 ft. long, and still stands to the height of 85 ft. It consisted of seventeen arches, of which those in the deep middle of the valley were buttressed by two intermediate tiers of arches. The total length of the aqueduct is about fifteen miles, and it is estimated that it could deliver 127,000 cubic metres of water in twenty-four hours.

Theatre. The cavea, 351 ft. in diameter, was in great part excavated from the hillside above the town, but toward the front supported on artificial substructions. It was surrounded at the back by a boundary-wall of marble and had a diazoma, to which there was an entrance at each side by a passage beneath the seats. The seats were of marble, with a fine moulding at the edge and much hollowed in front: they were well jointed and secured together by ⟝ clamps. An inscribed throne in the court of the chief church proves that there were seats of honor. The date is uncertain. The cavea is in a ruinous state, and there is no trace of a stage-structure.

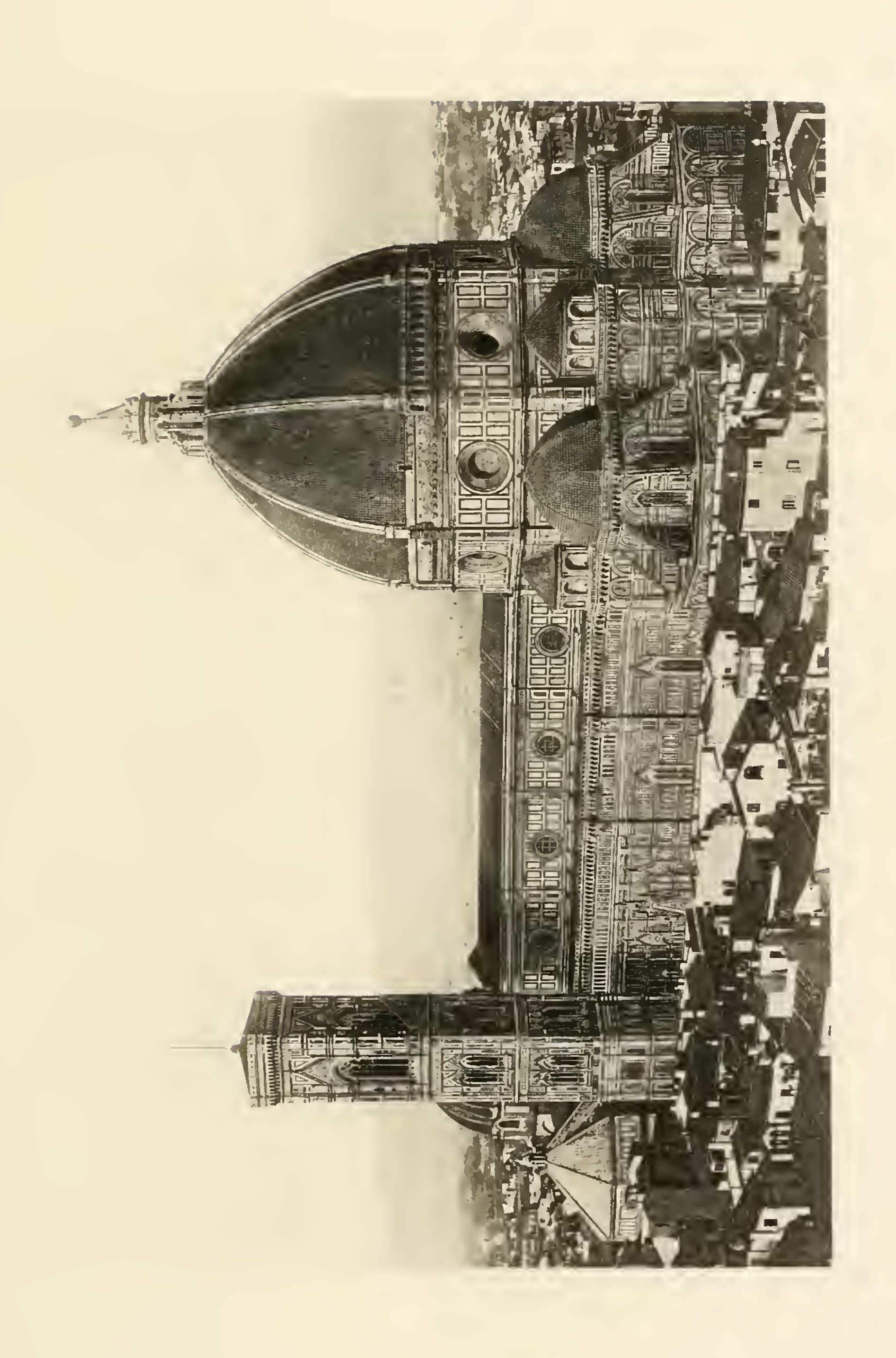
NAPLES (Napoli), Italy.

Arch of Alfonso, one of the richest and most elaborate of the commemorative monuments of the Renaissance. It was built in 1470, to celebrate the entry of Alfonso of Aragon. Its architect is doubtful, but it has been assigned both to Pietro di Martino, of Milan, and to Giuliano da Maiano, of Florence. It is built of white marble, and occupies the whole height of the wall between two of the massive round towers of the Castello



FLORENCE—CATHEDRAL AND CAMPANILE







Nuovo. It is in four stages, through three of which rise continued side buttresses flanking a curtain wall. The first and third stories consist each of an order of columns, Corinthian in the first story and Composite in the third, coupled upon the buttresses at the angles with decorated entablatures, of which the friezes are charged with inscriptions and bas-reliefs, and enclosing in each story an arch springing from decorated pilasters and with sculptured figures in the spandrels. Between these two orders is an intermediate stage with a continuous relief representing a triumphal procession, and above the upper order a high attic consisting of a range of four decorated semicircular niches between pilasters, enclosing statues of the cardinal virtues. A segmental pediment with figures in relief and crowned by standing statues, terminates this remarkably elegant and original composition. The sculptors Isaia da Pisa and Silvestro dell' Aquila are said to have worked upon it. (*See Fig. 124.*)

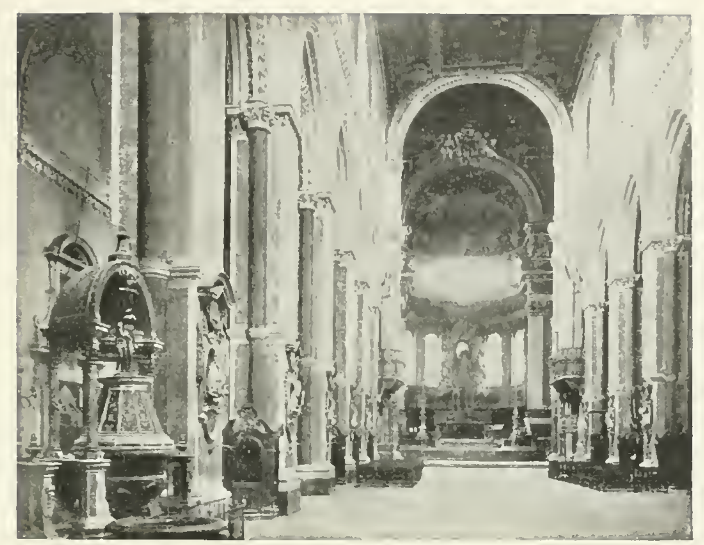


Fig. 125.—Naples, Cathedral.

The CATHEDRAL of St. Januarius or S. Gennaro consists of two distinct portions, of which the older cathedral, called the Basilica of Sta. Restituta, opening from the south aisle of the newer cathedral and at right angles to it, is reputed to have been founded by Constantine and to occupy the site of a Roman temple of Apollo; but the oldest parts probably belong to the church of the VI cent., rebuilt in the XII. Its plan comprises a nave which ends in a flat apse, and is separated from the aisles by arcades of pointed arches springing from six Corinthian columns, taken from Roman temples. The aisles are each in seven groined bays flanked by a line of square chapels. The ceiling of the nave is painted by Luca Giordano. The old baptistery, now the Chapel of S. Giovanni in Fonte, opens from the end of the right aisle, and is remarkable for the number of early mosaics and wall paintings which it contains. The new cathedral, begun in 1278, is a long basilica with a nave and aisles abutting against a great transept, and separated by arcades of pointed arches springing from grouped piers. The aisles are groined in square bays, the nave covered with a wooden ceiling. The arches are continued by single broader arches across the rectangular transept, from the centre of which opens a polygonal vaulted apse. The nave ceiling and the clerestory wall are covered with frescoes, those of the clerestory by Luca Giordano. A line of rectangular chapels opens from each aisle, and from the middle of the south aisle the large and richly decorated chapel in the form of a Greek cross, built in the first half of the XVII cent., and dedicated to St. Januarius, the central space covered

by a round dome, and the vault of the roof painted with figure subjects from the life of the saint by Domenichino and Spagnuoletto. Under the choir is the sumptuous crypt or confessio of S. Gennaro, containing the body of the saint. The front, dating from 1407, is in three vertical divisions, each with a square doorway covered by a gable, the central one with a rich portal dating from 1407, and a two-light pointed window above. Each division ends in a gable, and the front is flanked by two projecting square towers, enclosing staircases. (*See Fig. 125.*)

The PALAZZO REALE (Royal Palace) was built about 1600 from the designs of Domenico Fontana. It is of great extent, with a west front nearly 450 ft. long, in three stories, with projecting wings and central pavilion faced with three orders of pilasters, Doric, Ionic, and Corinthian. The first story was originally an open arcaded loggia, of which the arches are now mostly filled up. The great interior court is surrounded by two stories of finely proportioned arcades. A monumental staircase, added in 1651, and opening from the court, conducts to the state apartments, which include a splendid ball-room, a theatre, and a chapel.

PAUSILYPUM, the villa of Vedius Pollio of the time of Augustus, extending down the slope of the promontory of Posilipo and covering a considerable area. The massive ruins of the foundations are visible in the sea for a distance beyond the existing shore-line. The myrtle-clad remains are very extensive and picturesque, but are confused. In one place, a building rises to the height of three stories, the lowest of which appears to have formed part of a bath. Close by, a theatre has recently been excavated with other buildings; it has seventeen tiers of seats, with a corridor above and a tribune at each angle of the orchestra. Nothing survives of the stage-structure, which was probably of wood. Another building, square, with ornamental pilasters and semicircular exedras, on the hillside, seems to have been a gymnasium. An odeum, close by, is small but remarkably perfect. It has twelve tiers of seats, a semicircular stage-structure, a columned recess, apparently for musicians, in the orchestra, and a hall above the middle of the cavea, with a throne separate from the seats, believed to have been for the emperor. The ornament of this odeum was very rich, it being encrusted throughout with precious marbles. Among the other buildings are a basilica, a so-called hemicycle, porticoes, and nymphaea. It is uncertain whether the theatre and the buildings subsequently enumerated belonged to the villa of Pollio or to the villa of Lucullus.

S. DOMENICO MAGGIORE, a Gothic church which in 1285 replaced an older one, but was successively modernized in the XV, XVII, and XVIII cents., and last in 1850–53. Its plan is a rectangle about 108 ft. wide and nearly 250 ft. long, with a nave some 50 ft. wide covered by a flat ceiling, and an arcade of seven pointed arches on each side on thin grouped piers separating it from the aisles, which are in groined bays, with square groined chapels opening from them. The transept is as broad as the nave and is divided by single high pointed arches into three bays, of which the central one at the crossing is groined, the others being covered by pointed barrel-vaults. Above the main arcades, which are very high and acutely pointed, is a rather high wall containing two-light traceried clerestory windows, with flanking pinnacles and panelwork between. The octagonal choir, formerly square-ended, is vaulted, and flanked by two chapels on each side. Stairs from the angles of the choir lead to a small crypt with Doric half columns on the walls, supporting a bracketed cornice. The church is decorated with much richness and contains many notable monu-

ments. The front has an open arcaded porch in three bays and under it a Norman-looking doorway. These portions are probably altered survivals of the older church. The transitional porch at the entrance of the east transept dates from the XV century.

S. Filippo Neri, known also as the Gerolamini, was built between the years 1592 and 1619 by Dionisio di Bartolommeo for the saint whose name it bears. Its plan is a Latin cross about 120 ft. wide and 260 ft. long, its nave and aisles divided by lines of granite columns, carrying arches, six on each side, which support an entablature, with a flat ceiling exuberantly carved and gilded covering the nave. The aisles are divided by arches into square bays covered by low domes, and a rectangular chapel opens from each bay. The rectangular transept has the breadth of the nave and is divided into five bays, with a dome at the crossing from which opens a shallow rectangular tribune. The façade, from the designs of Lazzari, is divided into five compartments, and is richly decorated with marbles and statues. The great monastery adjacent to the church contains a fine library.

S. Martino. This secularized Carthusian convent has been turned into a museum, under the care of the Italian government. It is reputed to date from the end of the VI cent., but was rebuilt for the Carthusians in 1325, and entirely remodelled in the XVII century. The church, which is noted for its splendid interior, was built over in 1657 by Fonsaga, on its old lines, and consists of a nave of three bays, without aisles or transept, and a deep square-ended chancel, which served as choir. It is lined with an order of Composite pilasters, facing heavy piers, under which the arcades open into three chapels each side the nave, and which is continued round the choir. The order carries a groined pointed vault, whose lunettes are occupied by the large square-headed windows of the clerestory. The architectural detail is rich and florid, baroco in style, the walls and floor are lavishly enriched with colored marbles, and the ceiling with



Fig. 126.—Naples, S. Martino, Cloister.

painting. The cloister, encompassing the old burial-ground of the monks, is very large, and is surrounded by a light and graceful arcade on slender Doric columns, over which the upper story, set back to the rear wall of the galleries, is pierced with pedimented windows in the intervals of an order of pilasters. (*See Fig. 126.*)

S. PAOLO MAGGIORE is a baroco church designed by the monk Francesco Grimaldi in 1590. It is cruciform and flat-ceiled, with nave and aisles divided by arches alternately large and small, under a great order of Corinthian pilasters, and is richly decorated and carved with frescoes. It stands on the foundations of a temple of Castor and Pollux; two of the Corinthian columns and a fragment of the architrave are incorporated into the uninteresting front across which the order is continued in pilasters.

NARNI (anc. Narnia), Umbria, Italy.

BRIDGE carrying the Flaminian Way over the ravine of the Nar, built by Augustus, in high repute in antiquity for its boldness and height. It consisted of three arches, built of large blocks of white marble. The arch on the left bank is still intact, and is 60 ft. high; the two other arches have fallen, though their massive piers remain and form an imposing ruin. The piers are placed about 30 ft. apart.

The CATHEDRAL is a building of marked peculiarities, built at various periods. At present it has four aisles and a line of chapels, a short transept and a very wide seven-sided apse. The main body of the church was originally a three-aisled basilica built in pre-Romanesque period, whose nine bays have the same peculiar segmental arches as Sta. Maria in Pensole (*q. v.*). These arches are supported on monoliths with early capitals. The original wooden roof made way, at an uncertain period, for groined cross vaults. The apse and the vault in front of it are a bold construction of the XIII cent. the immense cross-vault over the intersection has a span of about 60 ft., the apse, about 40 ft. deep, is vaulted on eight converging ribs. Under the choir is a crypt of the same date but now remodelled. The second choir or chapel on the left is also of the XIII cent., while several other chapels date from the Renaissance. The earliest part of all is the primitive Chapel of S. Cassius with its crypt, whose origin is in the IV or V century. The bell-tower is a brick construction of the XII cent., resembling those of Rome. The portico, a fine work of the Renaissance, has an inscription of 1494. This is probably the date of the restoration of the entire church and the addition of the vaults. Within the church is a fine series of Renaissance sculptured monuments of the XV and XVI centuries. [A. L. F. Jr.]

S. GIROLAMO is a good example of the Romano-Umbrian Gothic of about 1300. It is cruciform in plan, built of stone, and has a square apse without side chapels. Its nave consists of three square compartments measuring 32 ft., with cross-vaults and pointed transverse arches ribbed like examples at Perugia and Rieti. The groups of colonettes sustaining them are simple and elegant. In each bay is a one-light pointed window; there is an oculus in the apse and the façade had a rose-window, now destroyed. [A. L. F., Jr.]

STA. MARIA IN PENSOLE is peculiar for the form of its arches. It is a simple basilica with an open porch. The three arches of its porch and the four of its nave are so flat as to be but a small segment of a circle. It is difficult to assign a date to the church. There is an inscription in the porch dated 1175; but an inscription of the V cent. was found in the crypt. [A. L. F., Jr.]

NAZARETH, Palestine.

CHURCH OF THE ANNUNCIATION, a small and simple church enclosed in the Latin monastery and built in the XVII–

XVIII cents. over the grotto in which, according to the tradition of the Latin church, was the scene of the Annunciation. The church is approximately 50 ft. by 70 ft., and is divided into bays by four heavy square piers, and arches, transverse and longitudinal, springing from them, which carry low domes resting on pendentives. The spacious choir occupied at service by the monks is raised high above the nave, and reached by a double flight of steps with an arch between. The architecture is plain and bald, the richness of the interior being due to its hangings. Between the ascending steps a descending flight leads to the crypt or grotto, which consists of three parts:—a vaulted narthex: then the chapel of the Annunciation proper, where Mary was met by the Angel Gabriel; then an apse covered by a semidome, the Chapel of St. Joseph—and behind them all a bare cavern in the rock. The grotto is reputed to be the house of St. Joseph. A great basilica built here in the early days of the church is repeatedly mentioned by pilgrims and early writers. It survived to the time of the Crusades, but was destroyed by the Turks in 1263. The present church, begun by the Franciscans in 1620, was finished as it now stands in 1730. (*See Fig. 127.*)

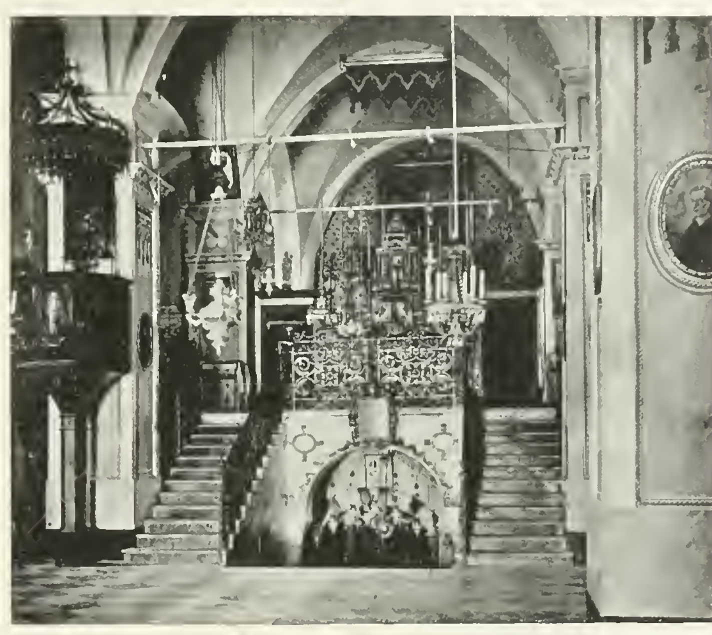


Fig. 127.—Nazareth, Church of the Annunciation.

NEANDRIA (Mt. Chigri), Asia Minor.

The FORTIFICATIONS are of hewn masonry, partly polygonal and partly squared, of different dates before the IV century B.C. The plan is an irregular rhomboid. The walls are in good preservation throughout the circuit of two miles, and are among the finest military remains of Asia Minor. The chief gates at the N.E. and the south are flanked by square towers.

The TEMPLE is of importance as giving definite knowledge of a new type. The foundation, of somewhat rough masonry, measures 42 ft. by 84 ft., the cella (interior) 26½ ft. by 65 ft. It is thought that it was not peripteral, but that it had perhaps a widely overhanging roof. The cella was divided into two aisles by a central range of seven columns. The shafts were smooth, without base, tapering much toward the top. The capitals were of proto-Ionic type, wide-spreading volutes originating in vertical bands, but with the addition of a necking formed of two leaf-mouldings. Mr. Koldewey holds that this type of capital is not proto-Ionic, but a type heretofore unrecognized which he calls Æolic. Access to the cella was by a door 4 ft. wide in the west end. The two-aisled arrangement is paralleled in the so-called Basilica

at Paestum (*cf.* Locri). Such double temples may have been less uncommon in Greek antiquity than has been believed. The face of the terra-cotta cyma was ornamented with animals in relief, and the antefixes with the head and shoulders of an animal of the cat or fox tribe. In date the structure can be assigned to the VII century B.C.

NEMEA, Argolis, Greece.

TEMPLE OF THE NEMEAN ZEUS (Jupiter), described by Pausanias as a notable building, notwithstanding that already the roof had fallen in and the statue disappeared. The temple, which stood in a grove of cypresses, was a Doric hexastyle peripteros, of which three columns are still standing. Two of these columns, between antæ, in the pronaos, are 4 ft. 7 in. in diameter at the base, and still support the architrave. The surviving peristyle column is 5 ft. 3 in. in diameter at the base and about 34 ft. high. The width of the stylobate in front was about 65 ft. The metopes were not sculptured and were cut on the same block with the triglyphs. The length of the temple is reckoned at something over 150 ft. The columns have twenty channels and are coated with a thin layer of stucco. They are to be noted as among the most slender examples of the Greek Doric.

NEPI, Italy.

THE ABBEY CHURCH of S. Elia, just outside Nepi, is a simple three-aisled basilica built of coarse-grained sandstone and dates probably from the XI century. It is interesting as a connecting link between the early Christian and mediæval styles, and is one of the few remaining monuments of this period in the northern part of the Roman province. The nave is divided from the aisles on each side by six columns. The measurements are: length, nearly 112 ft., of which the nave measures about 80 ft.; the transept, 24 ft.; and the apse, 8 ft. The width of the nave is 26 ft. and of the side-aisles, 14 ft. The façade is simple and follows the lines of the roofs of nave and aisles. In the middle of the gable is an oculus; below are three doorways with sculptures, which form the only decoration of the façade. Toward the middle of this century the tower on the right fell and ruined one side of the church, which was rebuilt in 1856 with the substitution of a few columns. The round-headed windows are small and the apse is shallow. The interior is remarkably well proportioned and light. The round arches, which are recessed and rather low, rest on fine monolithic columns, most of which are ancient; some of the foliated capitals are also classic, others mediæval imitations. A low triumphal arch separates the nave from the sanctuary, resting on columns engaged in a pier. Under the upper part of the church is a crypt, reached by a staircase in the right aisle. The whole interior is covered with wooden roofs. A great part of the interest with which the church is regarded is due to its internal decoration and furniture, belonging largely to the period of the foundation of the church. The walls of the apse and transept were covered with frescoes in the XI century. They form a connecting link between the Roman mosaics of the VI to IX cents. and the Italian works of the XIII century. On the piers of the transept and on the walls of the right aisle are frescoes of the XIII, XIV, and XV cents., the figures being in many cases large and well preserved. The mosaic pavement is of the XI cent., and so are apparently the ciborium over the high altar, the parapet of the choir and the pulpit, all of marble with architectural decoration, and in the case of the pulpit, with patterns in low relief. An inscription around the marble font reads: *Anno Dni MCCXXII hoc opus Dns Wido Presul ortanus tempore Domni. Willelmi abbatis fieri fecit.* There are signs that the site was occupied before the building of this church. [A. L. F. Jr.]

NICÆA (Iznik), Asia Minor.

Ancient Ramparts, remarkably well preserved, with their imposing towers and gates. The area enclosed is about twelve miles long and four wide. There are two battlemented walls, separated by an interval of a little over 50 ft. The inner wall has one hundred and eight lofty semicircular towers; the outer, one hundred and thirty lower towers, so disposed as to alternate with the towers of the inner wall. There are three great gates out of the original four, flanked by massive towers of brick, besides two small gates. One of the gates, built of marble in 120 A.D. by Hadrian, has the form of a triumphal arch. Inside the Constantinople Gate is a third wall with three gates, opening on the city, forming a sort of citadel. The walls are from 15 to 20 ft. thick and are still from 30 ft. to 40 ft. high, retaining in places their battlements.

The Green Mosque is a Seljukian mosque dating from the XIV cent., and named the Green, from its minaret faced with green tiles. In front is a large projecting marble porch on three pointed arches surmounted by a dome; and the principal division of the mosque itself is also covered by a dome. Over the entrance an inscription gives the name of the founder Khayr-Eddin, the Grand Vizier of Murad I. and the date 780, that is 1378 A.D. An arcade on columns surrounds the building.

Theatre, in the southwestern part of the city, facing the north. It is probably the same building mentioned by Pliny in his letter to Trajan, as having cost, though still unfinished, ten million sesterces ($387,500). It is one of the few theatres in Asia not built against a hillside, its cavea being entirely sustained on vaulted substructions. The greater diameter is 260 ft. The masonry is of large blocks of limestone laid without cement. The structure is very ruinous, and is in great part buried under accumulations of soil.

NICOSIA, Cyprus.

St. Catherine, now a mosque, consists of a single nave, about 60 ft. long and 27 ft. wide, in three vaulted bays, of which the eastern merges into a semi-octagonal apse concealed on the outside by a straight wall. There are lateral buttresses in the form of half-octagon turrets, and a rose window in the front: and the Turks have built a high minaret on the S. W. corner.

St. Nicholas, now used as a government storehouse, is a barrel-vaulted church, about 130 ft. long, with three eastern apses, and a central dome on an octagonal tower. It is apparently a little later than the old cathedral, which stands just north of it.

St. Sophia, the old cathedral, is a large and handsome church, perhaps of



Fig. 128.—Nicosia, St. Sophia.

the XIII century. It is three aisled, about 215 ft. long, and 80 ft. across the front. The nave, of 25 ft. span, and the aisles

are vaulted in six bays, and end in an apsidal choir, round within and a half decagon without, encircled by the aisle. Flanking the eastern part, like transepts, are two chapels with eastern apses. At the front, which is later than the rest, are the stumps of two great corner towers, and between them a vaulted porch, which may be an addition, for behind the ruined upper story appears the great traceried window at the end of the nave. As in the cathedral at Famagusta, the vaults were the only covering of the church, and no roofs were built over them. The kings of Cyprus were crowned here, and some mediæval tombs remain, disfigured by the Turks, who have used the church for a mosque, and built two tall minarets at its sides. (*See Fig. 128.*)

NIKOLEIA, Phrygia, Asia Minor.

Rock-tomb ascribed to the beginning of the VII cent. B.C., and important, if this date is correct, as one of the earliest exemplars of the Doric style. The façade, *in antis*, has widely spaced, slender, unchanneled columns, tapering but little, with three annulets beneath the capital, and the high echinus forming an angle of about forty-five degrees with the shaft. The triglyphs are low and project beyond the plane of the architrave; there are two in the spaces between antæ and columns, and four in the intercolumniations. The cornice is slight and without mutules, the pediment low and with a high cyma. Many of these details seem to indicate a late date instead of an early one.

NIMROUD-KALESSI. See *Aegæ.*

NOCERA (dei Pagani), Italy.

Sta. Maria Maggiore, also called La Rotonda, a circular church evidently at first a baptistery, but differing in many particulars from the usual type of such structures in Italy. It consists of a central hall about 38 ft. in diameter with a surrounding aisle 16 ft. wide, from which it is separated by a ring of coupled Corinthian columns, some of which are antique, bearing narrow round arches. The central space is covered by a dome of peculiar form, its section a slightly cusped arch, the lower part circular and the upper elliptical. The lower portion is built with great massiveness, as a foundation and buttress for the upper portion, which is a thin shell. The dome springs directly from the capitals of the columns; its upper portion is pierced by eight windows, and its crown is about 45 ft. above the pavement. The surrounding aisle is divided by strong transverse arches into fifteen bays, corresponding with the arches under the dome, and roofed by flat segmental vaults. Opposite one of these bays, double the width of the others, a semicircular apse projects from the outer wall of the aisle and is covered by a semi-dome. In the centre of the building is a circular baptismal basin of unusual size, about 18 ft. in diameter, surrounded by a low wall, of which the outer face is octagonal and which formed the stylobate for eight columns, of which only three are now standing. These columns doubtless supported a canopy covering the basin. The exterior of the baptistery, nearly concealed by adjacent buildings, is extremely simple. Above the aisle roof rises a low wall carried up on the lower masonry of the dome to support the low-pitched wooden roof which covers it. This wall is pierced with small windows communicating with those in the dome itself. This building has been thought to be the earliest instance in which the masonry of a dome or vault was covered by a wooden roof. There is no record of the date of this building, but Mothes assigns it to the first half of the V cent., Hubsch to the beginning of the VI.

NOLA, Italy.

The Cathedral of Sta. Maria is the rebuilding of an older church, and dates in its present form from the end of the XIV century. It is a basilica with nave 100 ft. long and 60 ft. high, separated from

the aisles by arcades and opening into a transept with three eastern apses. The clerestory and aisle walls are pierced with numerous narrow windows. The front has three doorways, over the middle one of which are two arched windows and a round window. Under the church is a crypt dedicated to S. Felix, with three rows of columns. The church had fallen into ruins, but has been in late years restored by the Government.

NORCHIA (anc. Orcle ?), Italy.

ETRUSCAN NECROPOLIS, exhibiting a number of tombs of ordinary types ranged in an impressive rock-amphitheatre, and two which, except for the monuments at Sorana, are without parallel in Etruria. They consist of imitations of temple-fronts, with columns, entablatures, and pediments filled with sculpture. The friezes ape the Doric, and the entire character of the work shows attentive study of the Greek. The pediment-sculptures represents vigorous combats of warriors, fully armed. The column-shafts are now knocked away. The interior chambers of these tombs are small and plain almost to rudeness. Dennis dates them early in the IV century B.C.

NOVARA, Italy.

The BAPTISTERY is an octagonal building standing at the west end of the atrium, older than the cathedral, which it faces, perhaps even as old as the V century. It consists of a central octagon about 35 ft. in diameter, with ancient Corinthian columns in the angles on high plinths, four of them with fluted shafts and all bearing stilt-blocks, from which spring round arches, forming the openings of recesses or niches, alternately square and semicircular, and covered with barrel-vaults. On the arches is carried up the high clerestory wall, with a single window in each face above the roof of the surrounding niches. The wall supports an octagonal dome, crowned with a small lantern with windows. A large Roman vase in the centre of the floor was used as the baptismal font. The exterior is quite plain, of brick, the lower portion without other opening than the doorway from the atrium. The upper portion has small angle-shafts, and an arched corbel-table over the clerestory windows, between which and the cornice are three small arches in each face, opening into the space between the dome and its wooden roof; the precursor of the arcaded eaves-gallery so common in the later Lombard buildings.

The CATHEDRAL is an interesting and important Lombard church, which has, however, been greatly injured by restorations, the latest of which, in 1862, destroyed many of its most characteristic features. It is a five-aisled church, about 110 ft. in total width, approached until recently through an atrium or fore-court, with low arcades on the sides, from the westerly side of which opened the baptistery. The atrium has been sacrificed to make room for a modern Corinthian portico. Its eastern side was occupied by the narthex, also now transformed, in two stories divided into seven compartments, those of the lower story filled each with a round arch, three of them occupied by doorways, while those of the upper story are subdivided each into three blind arches, with a small window in the central arch. The narthex is vaulted in square bays, and its upper story forms a gallery opening by broad arches into the nave. It is covered by a lean-to roof, out of which rises in the centre the gable of the nave, and at the ends two square campanili. The whole arrangement much resembles that of S. Ambrogio at Milan. The interior is peculiar in many respects. The nave is about 35 ft. wide and 95 ft. long, and is divided into three bays, of which the first and third are square and comprise each three bays of the aisles, the middle one, which is shorter, comprising two. All are vaulted, but the vaulting of the nave is thought to replace a flat wooden ceiling.

From the compound piers dividing the nave bays, strong transverse arches are carried across the nave. Intermediate columns, two to each square bay and one to the shorter bay, correspond to the bays of the aisles. Of the double aisles on each side, the inner have a broad vaulted upper gallery, with arches corresponding to those below; the outer are divided into chapels. So far the original construction is substantially unchanged. But the eastern portion of the church has been much altered. The transept does not project beyond the walls of the outer aisles. The crossing is covered by an octagonal dome, the arms by smaller domes of an elliptical plan. The transept arms are closed from the aisles by a solid wall, pierced with a small doorway on each side. The choir, as long as the nave, is in three divisions, a square bay covered by an elliptical dome like those of the transept, a second square bay with a four-part vault, and a deep round apse with a ribbed semi-dome. A square campanile stands detached in the N. E. angle between the transept and choir. Portions of the present church date from the early part of the VIII cent.; Mothes gives three dates, 726, 1020, and 1124, as the important periods of its construction.

S. GAUDENZIO is a church of unusual plan built near 1580 by Pellegrino Tibaldi. It is a Latin cross about 270 ft. long and 150 ft. across the transept, whose projection is made conspicuous by the absence of aisles, and has a long apsidal choir. The rather narrow façade is in two stories of grouped pilasters, with curved flanking buttresses, a pediment above, and a porch on relieved columns over the door. The church stands free, and the pilasters are continued in couples along the sides and about the long arm of the choir, with niches between them. In the angle between the north transept and choir is a fine bell-tower, square below, octagonal above, ending in a barocco cupola. The original dome has been replaced by a high new one on a drum surrounded by Corinthian columns, not only dwarfing the bell-tower, but by its weight endangering the piers that support it. The interior is lined with pilasters in pairs, the nave alone being bordered with shallow chapels, and is barrel-vaulted throughout.

OLYMPIA, Elis, Greece.

The ALTIS (sacred grove), or sanctuary of Zeus Olympios (Olympian Jove), the scene of the Olympic games, is in a plain between the rivers Alpheus and Cladeus, and an irregular hill called Mt. Kronios. The sanctuary consisted of a sacred enclosure, surrounded by a wall of blocks of Poros stone, containing several temples and many other splendid buildings, and adorned with groves, altars, and statues, and other outlying buildings. The Altis, which, tradition says, was laid out and enclosed with a wall by Hercules, had several entrance-gates, the principal of which, the Pompic gate, was used for grand processions. On the east side, without the wall, were the Stadium and the Hippodrome, the scene of the principal contests of the Olympic games. After the Roman conquest (146 B.C.) the festival was kept up with great splendor, and many of the most elaborate buildings at Olympia were due to the emperors. The games were continued until 394 A.D., when an end was put to them by Theodosius I. He removed Phidias's great chryselephantine statue of Zeus to Constantinople, where it was burned in 475, and doubtless from his time the temples and other buildings gradually fell to decay. The Altis was an irregular quadrilateral enclosure, its two longest sides (east and west and north and south) extending about 680 feet. The Temple of Zeus stood S. E. of the middle, upon a terrace about 574 ft. by 262 ft. On the north side, at the base of Mt. Kronios, was a higher terrace, reached by steps, on which stood the Exedra of Herodes Atticus and a row of

treasuries. Pausanias notes only eleven, but remains of twelve have been found. The other buildings within the Altis were the Heræum or Temple of Hera, the Metroön or Temple of the Mother of the Gods, the Philippeum, the Hippodameum, the Stoa of the Echo, the Leonidæum, the Prytaneum, the Bouleuterion, and the Pelopeum. The great altar of Zeus, on which the principal sacrifices were made, stood north of the middle of the Altis, half-way between the Metroön and the Temple of Zeus. (*See Fig. 129.*)

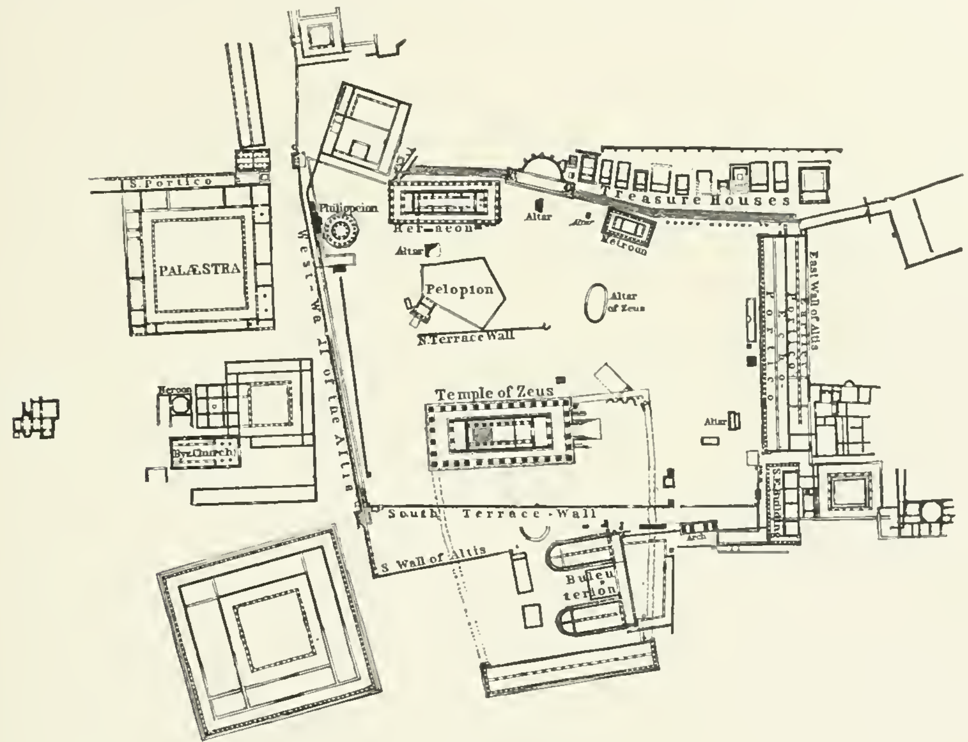


Fig. 129.—Olympia, Plan of Excavations.

Bouleuterion (Council-house), within the Altis. It is the earliest known Greek house of assembly of a deliberative body and consisted of a group of buildings facing the east. The first, or southernmost one, probably of the VI cent. B.C., was in plan a double nave with an apse of elliptical arc at the west end, a form hitherto deemed un-Hellenic. The apse was cut off from the main chamber by a cross-wall with stout doors in it, and divided into two parts by an east and west wall. The total exterior length was 100 ft., the breadth at the east end 43 ft. The side walls are curved slightly outward. This is the only known example in early Hellenic architecture of a ground plan tending thus to an elliptical form. The interior was divided by a range of seven Doric columns, 8 ft. 8 in. from centre to centre. The entrance at the east end was formed by three Doric columns between two antæ, on a stylobate of two steps. The second, or northernmost building, of the V cent. B.C., was a double nave with semicircular apse, similar in plan to the south building, but

showing no curve in the side walls. Both these buildings appear to have had windows and wooden roofs. The third structure, 46 ft. square, between the north and south wings, has its east front on the same line. This third structure was probably roofless, forming an open court, presumably with a row of columns upon the open east side. A long portico extended across the front of these three portions; it had twenty-seven Ionic columns on the east front and three on each side, including the angle-columns. It is conjectured that the apses, particularly that of the south wing, were the official treasuries of the Olympian Council.

Byzantine Church, west of the Altis, built upon ancient foundations probably during the first half of the VI cent., when severe earthquakes had destroyed the Olympian buildings. It has the form of a basilica, with a semicircular apse at the east and narthex at the west. The entrance is by a porch on the south side. The church proper, 60 ft. long, was divided into nave and aisles by two rows of five marble columns each, with composite capitals evidently taken from a Roman building, and the east end of the nave cut off from the sanctuary by a marble screen; a brick bench surrounded the interior of the apse. The narthex, or vestibule, 19 ft. by 35 ft., opens into the church by three doors. The ancient building, which was replaced by this church, was of Poros stone, and is assumed to have been the studio of Phidias. It comprised a vestibule 33 ft. by 40 ft. and an inner apartment 60 ft. by 40 ft., the latter divided into aisles by two rows of four Doric columns each. It was about the size of the cella of the temple of Zeus, and thus may have presented advantages as a studio for the elaboration of the great chryselephantine statue. The ancient masonry remains to a height of about 6 ft. The Byzantine floor has been removed and the ground plan of the Greek building is thus revealed.

Exedra of Herodes Atticus, built in the II cent. A.D., by Tiberius Claudius Herodes Atticus, the famous Greek rhetorician. It was an open structure of brick, consisting of a terrace 102 ft. by 18 ft., bounded by walls, with a semicircular apse behind it, whose outside radius was 31 ft., including the wall. At each end of the terrace stood a small open circular Corinthian temple of eight graceful columns, whose exterior diameter was 12 ft. 6 in. Upon the terrace, between the two temples, was a water-basin into which a lion's head spouted water from each end of the wall of the apse. The water was supplied from a reservoir fed by an aqueduct, part of which is yet in working order. The monument was dedicated by Herodes to Zeus in the name of his wife Regilla, as may still be read on a marble bull that stood on the front wall of the basin. Within the apse, between two Corinthian pilasters, corresponding to great buttresses behind, were portrait-statues of the family of Herodes and of those of the emperors Antoninus Pius and Marcus Aurelius.

The Gymnasium, used for exercise in leaping, running, and throwing the discus and javelin, was a large level quadrangle, surrounded on three sides, perhaps on all, by stoas or open halls. The east hall, both ends of which have been excavated, measures 690 ft. by 38 ft.; the east side and the ends are closed by a wall, the west side has a range of Doric columns with an intercolumniation of 10 ft. from centre to centre. Another row of Doric columns through the middle divides the stoa into two long galleries. A second Doric stoa on the south side of the gymnasium adjoining the palæstra has been partly excavated. It is not so wide as the east one, and has no central range of columns. The gymnasium probably dates from the early III century B.C. The grand entrance or propylæum at the S. E. angle, between the east and the south halls, was of Corin-

thian order with four columns on both east and west fronts. The two middle columns of each front form the extremities of two rows, each of six columns and a central pier, which divide the gateway into three aisles—the middle one (main entrance) is 11 ft. wide. This building is apparently of somewhat later date than the porticoes of the gymnasium. Pausanias tells us that the open court was paved with stone for the exercises of the athletes, and that their lodgings were against the wall of the east stoa, opening toward the setting sun.

The HERÆUM, or Temple of Hera (Juno), was founded, according to tradition, about 1100 B.C. Some existing remains may date back to the VIII century B.C. It was Doric, hexastyle, peripteral, with sixteen columns on the flanks and two between antæ in pronaos and opisthodomos; the ground plan is 164 ft. by 61 ft. 6 in.; the cella, raised upon a special foundation step, 133 ft. by 37 ft. The cella, whose walls above the foundation-course were apparently built of brick, was divided into three aisles by two rows of eight Doric columns each, the middle aisle being 12 ft. wide. These columns were put in in Roman times; originally pilasters stood out from the walls, forming on each side five chapel-like niches. The peristyle stood on a stylobate of two steps. The columns were 17 ft. 7 in. high, about 10 ft. 8 in. apart, and varied in diameter from 3 ft. 3 in. base and 2 ft. 8 in. neck, to 4 ft. 2 in. base and 3 ft. neck. They differed also in the form of the capitals, which ranges from the most archaic type to the straight-lined profile of the Roman period. One column had only sixteen channels; all the others had twenty. These anomalies are explained by the fact that the columns were erected at widely different periods to replace the original shafts of wood, of which Pausanias says that he saw one remaining still in the opisthodomos. Some of the older stone shafts were monolithic. The entablature and roof-frame were probably to the last of wood, since no stone fragments belonging to these members have been found; and the temple had roof-covering, cyma, cresting, and remarkable acroteria of terra-cotta. The material was in general a fine-grained Poros stone, but a coarse shell-conglomerate was also used. The opisthodomos, closed like the cella with gratings, served as a treasury. In this temple was found during the German excavation (1874 to 1881), the famous statue, by Praxiteles, of Hermes bearing the infant Dionysos, mentioned by Pausanias, now in the new museum of Olympia.

The HEROÖN (chapel of a hero), outside the Altis, about 48 ft. square, on the west side, was a long hall, 16 ft. wide, access to which was afforded by a portico of three columns; in the S. E. angle was a room 29 ft. by 15 ft., and north of it a circular room inscribed in a square, diameter 26 ft., with entrance from the hall and an altar on the south side. There is some indication that the major part of this building was of wood.

The HIPPODROME is entirely destroyed by the floods of the Alpheios, and as yet unexcavated. It lay immediately south of the stadium.

The LEONIDÆUM was named from its founder, Leonidas the Elian, and was converted in the first cent. A.D. into a residence for the Roman magistrates of Achaia. It had atrium, impluvium, baths, and niches. It was probably the largest building in Olympia, except the great gymnasium, which has not as yet been entirely excavated. The Greek building, which dated from about the middle of the IV cent. B.C., consisted, like the Roman, of four wings surrounding a central court 88 ft. 7 in. deep, the whole enclosed within an exterior portico of Ionic order built of Poros stone, except the ornamented and brilliantly painted gutter, which was of terra-cotta. The details are un-

refined. The dimensions were 266 ft. by 244 ft. The height from the ground to the rim of the gutter was nearly 23 ft. The interior portico surrounding the court was Doric. The outline of the echinus was straight, and the abacus thin and insignificant. To light the rooms beneath the portico the columns were made very slender, and widely spaced; three triglyphs in the frieze corresponded to every pair of columns. The entablature of this portico retains in great freshness its ancient coloring. The triglyphs and regulæ were painted very dark blue; the crowning members of the frieze, red. The sculptured mouldings of the cornice show a great variety of colors—red, blue, white, yellow, in various novel combinations. The Leonidæum may have been designed as a gymnasium, or indeed for the use to which the Romans finally put it—as a lodging-place for strangers of distinction. Some have sought to identify it with the Palace of Nero.

Metroön, or Temple of the Mother of the Gods, probably of the III cent. B.C., roughly restored in Roman times and filled with statues of the emperors, and wholly pulled down in the V or VI cents. by the Byzantines, who used the stones to build fortifications. It was Doric, hexastyle, peripteral, with eleven columns on flanks and two between antæ in pronaos and opisthodomos; the ground-plan was 68 ft. by 35 ft. The columns were channelled, resting on a stylobate of three steps. Fragments of the frieze show pronounced traces of red and blue. The capitals were of peculiar profile.

Octagonal Building, so-called, without the Altis east of the Palace of Nero. The heart of the building was an octagonal chamber, and was vaulted over. It was surrounded by rooms of various sizes and was evidently added to from time to time, especially toward the north and west, so that it came to encroach upon the Palace of Nero. A well-preserved architectural mosaic has been found in the northern part of the building. It dates from very late Roman times, and probably served as lodgings for imperial officials.

Palace of Nero, without the Altis, adjoining the Southeast Stoa, of which the materials were ruthlessly taken for its construction. It was a luxurious but hastily built Roman villa, with vestibule, atrium, many chambers, baths, a spacious court surrounded by a portico and many dependencies. It is identified by an inscription stamped upon a lead water-pipe.

The Palæstra (Wrestling-school), without the Altis and contiguous to the gymnasium, is of the end of the IV cent. B.C. or beginning of the III. A quadrangle 219 ft. square is enclosed by a wall which surrounds a series of halls and rooms of various sizes; in the midst of these halls and rooms is a quadrangular court 136 ft. square surrounded by Doric porticoes 16 ft. 4 in. wide, with seventy-two Doric columns. There are ranges of Ionic columns between the chambers and the portico, some have only the upper half fluted, others, like the Doric columns of the central portico, are fluted on the exterior side only. Water ran in a narrow channel round four sides of the court and flowed out at the S. E. angle. The outer wall had a foundation of Poros stone, above which it was built of brick. The interior was mostly of a fine-grained Poros. The sculptured portions were carefully executed and covered with a coat of fine stucco. Abundant traces of color—red, blue and yellow—survive. The entablature and roof were of wood throughout.

Prytaneum (Town-hall), N.W. from the Altis, between the north gate and the Heræum. The ground plan shows indications of two courts surrounded by porticoes and rooms of different sizes. On the south side there seems to have been a Doric portico 114 ft. long. In the main axis of the building, near the en-

trance, was the national altar of Hestia (Vesta) in a small chapel. The ruins were overturned and remodelled in Roman times and later. The Prytaneum dated from the best epoch of Olympia. Abundant remains of cooking and table utensils were found among the ruins.

SOUTH STOA, south of the Altis, a building of the Roman period, intended for the use of spectators of the grand processions, or for purposes of lodging or business. It was a rectangle, about 262 ft. by 42 ft., closed on the north side by a wall, the roof supported on the other sides by a Doric order on a stylobate of three steps, with thirty-three columns in front and six on each flank, the interior divided longitudinally by a row of seventeen Corinthian columns of sandstone. The outer columns are of Poros stone and the steps, which have an elaborate profile, of white limestone. Most of the parts of this building lie where they fell, so that it could easily be restored.

SOUTHEAST STOA, occupying the S. E. corner of the Altis. Its front lay a little back of the line of that of the Echo Stoa, built during the same Macedonian period. The Southeast Stoa was of Doric order, with nineteen columns on the front and eight on both north and south sides, and enclosed four rooms, the east side being closed by a plain wall. The cornice has the same ornament as that of the Echo Stoa. The material is Poros stone, the columns and entablature were coated with fine stucco.

SOUTHWEST BUILDING, without the Altis. A quadrangle 263 ft. by 241 ft., with one hundred and thirty-eight exterior Ionic columns (thirty-seven on east and west, thirty-four on north and south), forming a continuous portico, 18 ft. wide, about a series of halls and rooms of various sizes; within these was a second portico of about the same width, with twelve Doric columns on each side, surrounding an inner court 97 ft. square. This court was divided into geometrical flower-beds and water-basins, and was doubtless adorned with statues. Water, introduced in pipes on the north and east sides, flowed out through a conduit on the south side. The building shows two architectural periods, the original Greek, of the IV cent. B.C., and a Roman rearrangement.

STOA OF THE ECHO, called also Stoa Poikile (painted porch), doubtless from paintings on its inner wall. The building was of the Macedonian period, erected on the site of an older structure. It was a rectangle, 320 ft. by 39 ft. ; the east side and ends closed by a wall, with forty-four columns in front and two antæ on a stylobate of three steps of Parian marble. The interior was divided into two long galleries by a range of columns through the centre. Pliny says it was known as the Heptaphonon (seven-voiced) because it re-echoed seven times. The roof was of wood ; and there are indications that it was in a single span, with no support between the wall and the exterior portico.

STADIUM, without the Altis. The length of the course, from starting to finishing lines, was 630 ft. 9½ in. ; breadth at the west end, 94 ft., at the east end, 97 ft. From the measurement of its length was obtained the exact Olympic foot, which is just one six-hundredth of it, or 1.05 ft. The surrounding seats were sustained by a retaining wall of Poros stone, except on the north side, which rests upon Mt. Kronios. The judges' and athletes' entrance was a regularly vaulted passage-way through the west wall of the stadium, with a portico at the west entrance consisting of four Ionic columns, two outer ones engaged and connected with the inner ones by a low wall.

STUDIO OF PHIDIAS. See *Byzantine Church.*

TEMPLE OF PHILIP, or the Philippeum, probably erected by Alexander the Great, in memory of his father, Philip of Macedon, and of the battle of Chæronea. It

was Ionic, circular, with eighteen columns on a stylobate of four steps of Pentelic marble; the whole diameter 50 ft. The columns, with twenty-four flutes, were of Poros stone; the sculptured cornice and ceiling of the peripteros, of marble. The interior was decorated with twelve Corinthian engaged semi-columns of Poros, and contained statues in gold and ivory of Philip, Alexander, Amyntas, Olympios, and Eurydice; of several of these statues the pedestals have been found. The roof was probably covered with tiles of earthenware, and was surmounted by a bronze poppy-head. This building was long considered one of the earliest circular Greek edifices surrounded by columns; but the Tholos of Polycletus at Epidauros, recently explored by the Archæological Society of Athens, is almost a century older.

Temple of Zeus Olympios (the Olympian Jove), or Olympieum, within the Altis, upon a terrace. An ancient temple had stood on the site, but after the conquest of Pisa (572 B.C.) the Eleians devoted the spoils to the erection of a new and magnificent building. The architect was Libon; and the temple was not finished until much more than a century afterward. It contained the famous chryselephantine statue of Zeus, the masterpiece of Phidias. It has been excavated partly by the French under Blouet, in 1831, completely by the Germans in 1875–76, the remains being under fourteen feet of alluvium. The temple was Doric, hexastyle, peripteral, with thirteen columns on flanks and two between antæ in pronaos and opisthodomos; the ground-plan, 210 ft. by 90 ft., measured on upper step of stylobate; the cella (exterior), 152 ft. by 52½ ft. The cella is divided longitudinally into three aisles by two rows of seven columns each; at the west end of the central aisle, 20 ft. wide, stood the statue of Zeus, 40 ft. high. The columns, on a stylobate of three steps, had a diameter at base of 7 ft. 4 in. and height of 34 ft. 3 in.; intercolumniation, centre to centre, 17 ft. The height of the building to the top of the entablature was 53 ft., to apex of pediment, 66 ft., width of cella door, 15 ft. 9 in. Material, limestone overlaid with fine stucco; roof, a wooden frame, covered with tiles, which, like the cornice, were of Parian marble. The floor of the pronaos contained a fine Greek mosaic representing Tritons. The pediments were filled with sculptures ascribed respectively to Pæonius and Alcamenes. The acroteria were of bronze, a Victory upon the apex of the east front, and great tripods at the angles.

The sculptures in the east pediment represented the contest for Hippodameia between Oenomaus and Pelops; those in the west pediment the fight between the Centaurs and Lapiths. Zeus occupied the central place in the former scene, Apollo in the latter. The twelve metopes of the inner friezes over the pronaos and opisthodomos porticoes were carved with the twelve Labors of Hercules.

Theocoleum, a group of buildings for the use of the Theokoloi or priests who superintended the sacrifices immediately without the Altis. The original building was 61½ ft. square, with a central court of about 23 ft. square, surrounded by eight rooms. About the court was a Doric portico, with an entablature resembling the Ionic. This portion of the group dates probably from the IV cent. B.C., and rests doubtless upon older foundations. Later, the building was enlarged by the addition of three rooms on the east side; and, finally, in Roman times, a much larger quadrangle was added on the east side, consisting of a number of rooms surrounding a spacious portico with a large court in the middle.

The Treasuries of various cities occupied a terrace on the northern edge of the Altis, which it overlooked, and beneath Mt. Kronios. Access to the terrace was

afforded by steps of Poros stone. Behind the terrace was a massive retaining-wall, to resist encroachment of earth washed from above. The treasuries extended in a row from the exedra of Herodes Atticus to the stadium. The remains of twelve have been recognized. They were of widely different periods and architecture, but most were in the form of a small Doric cella *in antis*. Many of them were adorned with very beautiful terra-cotta cornice- and roof-ornaments. In the treasuries were stored, by the founding cities, splendid gifts and votive offerings to Olympian Zeus. The Treasury of Gela, the most easterly of all, next to the stadium, was Doric, hexastyle, and prostyle. It is conjectured that the interior of the cella was surrounded on three sides by columns. The stone cornice was encrusted in the ancient Sicilian fashion with terra-cotta tiles, fastened with iron nails, and very elaborately and beautifully painted with designs in black and deep red upon a yellow ground. The terra-cotta roofing is also interesting, and the ornamented crest-tiles are of novel design. The building was probably founded during the first half of the VI century B.C. Materials exist for an almost complete restoration. That of Megara, built in the second half of the VI cent. B.C. from Corinthian booty, was a Doric temple *in antis*. The tympanum of the pediment (19 ft. 2 in. by 2 ft. 5 in.) contained twelve figures in relief—a recumbent figure at each extremity and five couples of combatants—representing the contest between the Gods and the Giants. The remains of these sculptures are of importance as being highly archaic. That of Metapontum Selinus and Megara was one of the oldest of the treasuries. Little remains except scanty portions of the foundation and fragments of the rosette-shaped anthemia of the terra-cotta crest-tiles of the roof.

Triumphal Arch (Roman) in the line of the south Altis wall, between the Bouleuterion and the Southeast Stoa. It was of considerable size, with three arched openings, and doubtless presented externally an appearance of magnificence. Like the Palace of Nero, however, it was very hastily, even temporarily, built of bases of statues, architectural fragments, and whatever came first to hand. There is no doubt that it was constructed to form a fitting entrance to the sacred enclosure for Nero.

ORCHOMENOS, Bœotia, Greece.

Treasury of Minyas, so-called, considered even in classical times as a highly remarkable monument. The structure is of conical or beehive form, with an interior diameter of 46 ft. The walls are built in horizontal courses of stone blocks corbelled out, each course beyond the next below it, the whole interior being hewn to a domical shape. They were studded with rosettes of metal. In the middle of the floor was a large pedestal of much later date, which probably bore a group of statues. On the right-hand side a doorway about 7 ft. high leads into a smaller chamber hewn from the rock, presumably the grave-chamber proper of this old funeral monument, erroneously styled a treasury. The walls of this chamber were revetted with marble slabs carved like the green schist blocks of the roof, with an elaborate and graceful tapestry-pattern of Mycenaean spirals and rosettes. The entrance from without is by a doorway 18 ft. high, between inclined side-walls of grayish-blue marble, opening upon an uncovered passage or *dromos* 16 ft. 9 in. wide. The door-passage of the tholos is 8 ft. 2 in. wide at the top, and 9 ft. wide at the bottom, its lintel being formed by a mighty block of gray-blue marble 16 ft. 6 in. long. The double doors, for which the grooves and hinge-holes remain, were probably of bronze. This treasury was excavated by Dr. Schliemann in 1880–81 and 1886.

ORFA. See *Edessa*.

OROPOS. Attica, Greece.

Stoa, about 250 ft. to the eastward of the temple of Amphiaraos. It has been excavated to a length of about 114 ft., but its full dimensions are as yet unknown. Its southern side was occupied by a range of Hellenistic Doric columns, and its interior walls were skirted by a continuous series of inscribed marble benches.

The Temple of Amphiaraos, called the Amphiareum, distant from the city about twelve stadia, or a mile and a half, was a Doric building with six columns between antæ terminating in semi-columns, resting on a stylobate of three steps. The interior was divided into three parts by two rows of five unfluted columns; and from the rear of the temple there projected a small quadrangular extension—probably the *adytum* or seat of the oracle. In the middle of the interior was a large rectangular base or altar. Over the pronaos there was a Doric entablature and pediment of ordinary form, the cornice above being continued on the flanks of the temple. The architectural forms fix the date of construction as in the Macedonian or the early Roman epoch. The statue was of white marble. The building has been in great part destroyed by the overflowing of the neighboring torrent.

Theatre, behind the Stoa, of small size, but architecturally important. The foundations of the stage-structure survive, with some of the superstructure. Eight pillars, finished in front with semi-columns, appear to have formed supports for the scenery. The auditorium is in great part destroyed; five thrones, however, remain from a row of seats of honor.

ORVIETO, Italy.

The Cathedral is one of the most familiar and celebrated examples of the Italian Gothic of the XIII and XIV centuries. It is commonly ranked with the cathedral of Siena, with which it is nearly contemporary, because of the similar outline of its front. The church is cruciform, with a length of about 290 ft., and a breadth of about 100 ft., the transept not projecting. Its nave is broad, and is separated from the aisles by five round piers on each side, with low foliated capitals supporting simple round arches. In front of each of the nave piers stands a colossal marble statue of one of the Apostles, on a high pedestal. Above the arcades runs a narrow projecting gallery with quatrefoil panels, supported on small consoles, but no triforium. The clerestory is high and is pierced with a single tall pointed window over each of the nave arches. From the wall of each aisle project five small round apses, used as chapels, and between them are tall pointed two-light windows with simple tracery in the heads filled with stained glass. The square of the crossing is marked by clustered piers, from which transverse arches are thrown across the nave, transept, and choir. The choir is rectangular, and is lighted by a tall pointed two-light window with simple tracery, and covered, like the square of the crossing, by a simple four-part vault, the other portions of the church having open wooden roofs. The walls and piers throughout are banded in black and white marble. Opening from each transept arm is a large rectangular chapel, of which the southern, dedicated to the Madonna di S. Brizio, contains on the walls and ceiling some of the most admirable frescoes of Fra Angelico and Luca Signorelli. The exterior is, with the exception of the front, banded like the interior in white and black marble. The aisle walls show the five projecting apses on each side, decorated with slender engaged shafts ending in arched corbel-tables, and covered by conical roofs just under the cornice of the aisle. The clerestory wall is also divided by slender shafts, each bay containing a single tall pointed-arched window. The

transept and east end are bare. The façade is one of the most remarkable in Italy. It is of white marble, in three divisions, corresponding in width to the nave and aisles, but entirely belying their outline, separated and flanked by strong square buttresses, their faces decorated with long traceried panels, rising through the front and terminating above the roofs in massive crocketed pinnacles. At the base of each of the three divisions is a deeply splayed doorway, that in the middle round-arched, those at the sides pointed, but all decorated with delicate twisted jamb-shafts and arch-mouldings, and surrounded by bands of mosaic. The arches are covered by high gables with crockets and finials. A slight and graceful arcaded gallery, with cusped round arches carried on pilasters and covered by gables, crosses the front above the doorways. Over this gallery the wall space of the central division is occupied by a fine traceried rose window with decorated border and spandrels of mosaic, set in a square of small quatrefoil panels enclosing heads in high relief, and enclosed on the sides and above by ranges of niches containing statues, single and in groups. The three divisions are each terminated by a high crocketed gable. But the characteristic feature of this façade is its decoration. The great piers between the doorways, and those at the angle of the front, are covered with a network of branching vines, enclosing crowded figure sculptures of great delicacy by Giovanni da Pisa and other pupils of Niccolo Pisano. The hollows of the spiral shafts of the great doorways are filled with mosaics in geometrical patterns; a triple band of the same character surrounds the opening of the central doorway; the gables, the rose window, and other prominent features of the front are outlined in a similar manner, while the gables themselves, both those of the doorways and those terminating the façade, and the whole of the wall space above the doorway arches, are entirely covered with pictured mosaics on a gold ground, and of admirable workmanship. The whole front has since 1880 undergone a complete restoration. It has little logical connection with the church behind it, but is a mere architectural frontispiece, of which the central gable is 40 ft. or more above the nave roof, and the side gables are perhaps twice as high as the roofs of the aisles behind them; but as an independent architectural composition, whose keynote is its polychrome decoration, it is without a rival. The cathedral replaces an older one known as the Madonna di S. Brizio, and was built to commemorate the mira-

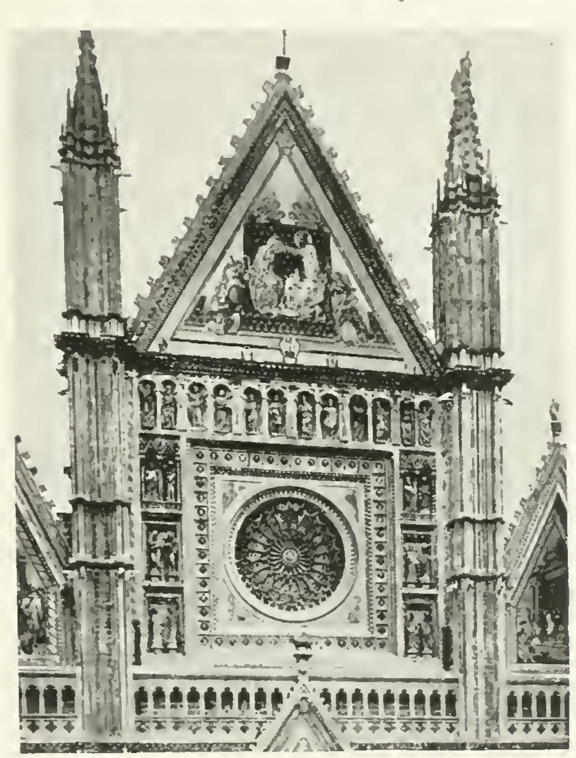


Fig. 130.—Orvieto, Cathedral, Central Gable.

cle of Bolsena. The corner stone was laid by Nicholas IV. in 1290, and the first mass said in the church in 1298. The façade was not begun till 1310, and the decoration of it was continued through most of the XIV century. (*See Fig. 130.*)

PALAZZO COMMUNALE. This building, now much injured, is notwithstanding one of the most interesting examples of the Italian town-halls of the XIII century. It is a rectangular building about 60 ft. deep, with two fronts about 120 ft. long, standing on what was an open arcade. On one front the arcade is still open, consisting of great round arches springing from massive square stone piers with half-columns on the jambs, the arch surrounded by a plain archivolt. Over an arched corbel-table stands a range of two-light windows, divided by columns under round bearing-arches. Of the opposite front, which was probably the principal one, the lower arcade is now walled up. The second-story windows are six in number and of beautiful design, with mullion-shafts and traceried heads under round arches, enclosed in a broad band of denticulated ornament, with a decorated label and impost moulding. Above, in the flat wall, is a row of small segmental arched windows, and at the top a line of forked battlements.

S. ANDREA was originally a basilical church, consecrated, as an inscription tells us, in 1013 by Benedict VIII., having been restored in 977. Its interior is very symmetrical: four slender granite columns on each side support wide round arches and have capitals all carved alike in an elegant semi-Ionic style. Both nave and aisles are covered with a wooden roof. Late in the XIII cent. or early in the XIV the two bays of the transept and the square apse were added in a semi-Gothic style, with richly moulded piers and arches, even more advanced than at Fossanova and the episcopal palace in Orvieto itself. The peculiar use of vaulting here is an interesting sign (like the attempt made at S. Sisto in Viterbo) of the efforts of Italian architects at this time to adopt vaulting in place of the wooden roof. In the small space of this transept three different kinds of vaulting are used: the ribbed cross-vault over the further bay of the aisles of the transept on each side, the semi-dome over the two bays of the nave, and the dome over the bay of each transept adjoining the nave. A fourth variety, the tunnel-vault, appears alongside in the square apse, but is likely to be modern. At all events, both nave and transept are unusually worthy of study. [A. L. F., Jr.]

OSTIA, Italy.

MITHRÆUM, or Shrine of Mithras, the Unconquered, a solar deity of Persian origin. In plan it is rectangular, about 17 ft. by 65 ft., with two narrow entrances, raised steps for seats at the sides, and an altar with an inscription of dedication. Close by, near the Torre Bovacciana, lies an important ancient dwelling, with a large open court and richly ornamented rooms, handsome pavements in mosaic, and a bath.

ROMAN THEATRE, between the Porta Romana and the Forum. It was built by Agrippa in his third consulship, 27 B.C., and restored by Septimius Severus and Caracalla. It is mentioned in the Acts of Sts. Cyriacus, Maximus, and Archelaus, who are said to have suffered martyrdom near it. The existing remains, mostly of brick and reticulated masonry, date chiefly from a shabby restoration of the V century.

TEMPLE OF JUPITER, so-called, the most conspicuous relic of antiquity on the site. It consists of a lofty cella in excellent preservation, standing at the head of a paved street about 500 ft. long, leading straight from the river bank. The cella rises from a vaulted basement, and had in front a fine flight of marble steps leading up to the portico of marble and granite.

It is built of brick, and was encrusted outside and in with marble. There are in the interior three niches and a base for statues. The temple court, about 96 ft. by 200 ft., was surrounded by colonnades.

OTRANTO, Italy.

Cathedral (Sta. Maria Annunziata), an ancient basilica, whose foundation dates from the end of the VI cent., but changed by repeated rebuildings in the VIII, X, and XI centuries. Its nave and aisles are separated by arcades of six round arches each, springing from columns and opening into a continuous transept, with three apses in the east wall corresponding to the nave and aisles. The nave and aisles are floored with a remarkable mosaic pavement, with figures of men, beasts, and foliage in red, black, and green marbles on a white ground. This pavement was much injured by the trampling of the Turkish horses during the Saracenic occupation of Otranto in 1480. A fine crypt under the transept and apses is divided into nine aisles lengthwise and five crosswise by round arches on granite and marble columns, with capitals of various design—antique, Lombard, Byzantine — and with prominent stilt-blocks, supporting a groined vaulting.

OTRICOLI (anc. Ocriculum), Italy.

The ancient remains are of considerable importance. The chief of them is the Amphitheatre, whose axes are 148 ft. and 220 ft. It is estimated that it could receive fourteen thousand spectators. The Basilica has an apse, and is divided into nave and aisles by ranges of columns, the central space being almost square ; it exhibits vaulted corridors on three sides. In the Thermæ was found the beautiful mosaic of the Sala Rotonda of the Vatican, where is placed also the celebrated bust of Jupiter found at Otricoli. Further east appears the theatre, 217 ft. in diameter, and abundant remains of private dwellings.

PADUA (Padova, Padoue), Italy.

The Arena Chapel. This famous little building, inseparably associated with the name and fame of Giotto, is of the simplest design, an oblong rectangle, with high side walls divided by flat pilasters, the south wall pierced with six small windows, a west front with a gable of medium height and an arched corbel-table following its rake, a square doorway with a round bearing-arch, and a three-light window above. The east end has a simple apsidal chancel, and the north side, which has no windows, a small sacristy. The interior is as simple as the exterior. Side walls and vault are one surface, unbroken by cornice or string-course. The chancel is divided from the nave by a marble screen with an altar set against it on either side, and the apse has a range of canopied seats around the circular wall. The whole interest is in the authentic series of frescoes by Giotto, covering walls and ceilings, which are among the most admirable of his works. The chapel was built in 1303, and the work of the painter was begun in the following year. The pictures consist of subjects from the lives of the Virgin and Jesus, of representations of the virtues and vices, and on the vaulted ceiling of medallions with figures on a gold ground.

The Baptistery is a small Lombard building of peculiar plan, dating from the XII cent., consisting of a cubical mass with pilaster-strips at the angles and plain narrow round-headed windows, out of which rises a cylindrical tower, its diameter nearly equalling the breadth of the square below, in two blind stories, the wall surface decorated with pilaster-strips and arcaded cornices in both stories. From the eastern side open three round arches, the larger central one into a semicircular apse with an altar, the side arches, one into a sacristy, the other into a small open porch. The upper story of the tower under the flat roof is finished within as a dome.

The CATHEDRAL is a Renaissance church of no marked importance, in spite of the connection with it of the great name of Michael Angelo. It is claimed that the choir, which was begun in 1552, was built from his design by the architects Andrea della Valle and Agostino Righetto. It is a cruciform church with a great tunnel-vaulted nave about 40 ft. wide, aisles with chapels and domed bays, a greater and smaller transept, the former ending in apses both to north and south, an apsidal choir, and a dome at each crossing. The work on the church was prolonged as late as the XVIII cent., and the interior is in a late and corrupt Italian style. The exterior is of brick, unfinished.

EREMITANI. See *S. Agostino.*

LOGGIA DEL CONSIGLIO (Council-hall), a beautiful Renaissance building dating from the end of the XV cent., built from the designs of Biagio Rossetti. It has a fine façade of two stories; the lower an open vaulted loggia with seven high round arches springing from tall Composite columns which stand on pedestals connected by a balustrade and carry a light entablature. Above this the wall is triply divided by flat Corinthian pilasters carrying a second entablature. In each division is a round-arched grouped window, the middle one triple, the others double, divided by columns. The building stands on a high basement with broad steps before the three middle openings of the lower story. The great hall is now dilapidated and the building is used as a military post.

PALAZZO DELLA RAGIONE (Town-hall), a remarkable example of the later class of Italian public halls, and one of the largest of its class. The building has a curved roof covered with metal and hipped from the four corners, and two stories of arcades surrounding its outer walls, of which the upper portion, comprising perhaps a third of their height, above the upper arcade, is divided by flat pilasters under the arcaded cornice, and crowned by quasi battlements like those in the Ducal Palace at Venice. The arcades consist in each story of round arches carried on slender columns—the second story having two arches to one below, the construction throughout very slight, and requiring iron tie-rods to insure its safety. In the street story, six rows of wall-piers and arches support the floor of the great hall, which is on a level with the second arcade and is entered from it, the arcade being reached by four external staircases. There is little design in the interior, the windows being inconspicuous and the walls divided into arched panels filled with ancient frescoes, some of which are claimed to be the work of Giotto. The famous feature is the great roof, which consists of immense timber arches, pointed, the crown of the arch 78 ft. above the floor, and without tie-beams or other provision for resisting the thrust than two lines of iron rods. Light is admitted only through small dormers, which, as the windows of the hall are low, are insufficient for so great a space. The building was finished in 1284, the architect being Roccalica, a Paduan. The story goes that the great hall was originally divided into three, but that at the beginning of the XVI cent. an Augustinian monk called Fra Giovanni built the great roof, after which they were thrown into one. Its dimensions are variously stated, but the latest measurements (by Mothes) give the length of the hall as about 300 ft. and its breadth nearly 80 ft.

S. AGOSTINO DEGLI EREMITANI. The great Augustinian church has been much changed externally, the front especially having been nearly rebuilt in recent times. The east end is least altered, presenting a great gable divided into four compartments with a small apse in the centre and lancet windows on either side. A square campanile rises from the north wall. The interior has an immense nave, of great breadth and nearly 300 ft. long, without aisles, covered with a tie-beam roof of

low pitch with a cusped and boarded ceiling. From the eastern end of the nave three arches open into the choir and an aisle on either side of it. The church is extensively decorated with early frescoes, those of the apse by Guariente, and those of a chapel on the south side of the nave by Mantegna being especially noteworthy. The church was built near the end of the XIII century.

S. Antonio (St. Anthony), a remarkable church of singular design, to which it would be difficult, from its character, to assign a probable date. It may be described as a Romanesque church about 300 ft. long and 90 ft. broad, on which has been grafted the Byzantine system of roofing, with a result which is not on the whole satisfactory. It is said to have been the work of Niccolo Pisano, but this is more than doubtful. Its exterior is wholly of brick and covered with a strange agglomeration of domes and towers, which, though they are disposed with absolute symmetry as regards the plan of the church, produce in any general view a confused effect. The façade presents one great gable of low pitch, its slope curiously broken, but not defining the nave and aisles, crowned by a slender round central turret half as high as the wall below. The first story, comprising two-thirds of the front, has a low square central doorway under a round arch with a flat niche over it. On each side are two very tall pointed-arched recesses of unequal width with their imposts at unequal heights, the outer ones enclosing doors and windows. Above the arches an open balustraded gallery of small pointed arches on columns crosses the entire front just under the gable. On the side walls the windows, some round-arched and some pointed, are generally coupled, the bays of the nave defined by gables and divided by flat buttresses, the walls finished by arched corbel-tables; the transept arms, also gabled on sides and end and buttressed like the nave, have circular-headed windows. From the roof rises a line of six domes of various heights, over the nave, choir, apse, and an eastern chapel, flanked by two over the transept. The central cupola over the crossing is masked by a sharp cone rising high above the neighboring domes and crowned by a circular lantern and spire. From each side of the choir rises a lofty and slender tower, which, starting from a square base, becomes an octagon of four stories with pointed-arched openings, arcaded string-courses, and a sharp pyramidal spire. The piers that divide the two great bays of the nave are stayed by a huge buttress thrown across the aisles on each side and appearing outside like a solid wall. The architecture obviously belongs to several periods, but two conspicuous divisions clearly assert themselves, first, a round-arched (Romanesque) part which includes the nave and transept with their vaults and domes; second, a pointed Gothic part including the aisles, the façade except the central door, the apse of the choir, which has been confused by alterations, and its flanking turrets. To these are to be added the Renaissance or modern additions, including the Lady Chapel. The original intent seems to have been to apply the doming of St. Mark's in Venice to the Latin cross of a Gothic church, and the nave is laid out in three great domed bays—of which the third is the crossing, flanked by two transept arms likewise domed—and continued in the square bay of the choir with still a sixth dome. Beyond this is the semicircular apse, also domed, enclosed by pointed arches springing from slender columns and surrounded by an aisle of nine bays with four-part vaulting and a range of nine radiating chapels outside. The main arches are all round, the high stilted domes borne by spherical pendentives, while in the bays of the nave pointed sub-arches have been built in, subsequently it would seem, in



Fig. 131.—Padua, S. Antonio, Rear.

consisting of pointed arches with voussoirs of yellow and black marble, carried on columns with high foliated capitals. In the larger cloister this arcade carries a second story with a range of engaged round arches, some of which are pierced by square-headed windows. The record of the church goes back no farther than the middle of the XIII century. It is said to have been finished in 1307, with the exception of the central cupola, which was a century later. (*See Figs. 131, 132.*)

Sta. Giustina, one of the most ambitious of the Renaissance churches, is 375 ft. long, 240 ft. across the transept, and nearly 85 ft. high under the vaults. It was built by Andrea Riccio about 1520. The nave and aisles are separated by square piers with a flat Ionic pilaster on each face, and a square block of entablature

pairs under the main arches, opening into the aisle bays, which are two to one and groin-vaulted. The interior of the main church is bare of detail and blankly whitewashed, but the chapels are richly decorated. Each transept arm is occupied by a chapel partially separated from the body of the church by a line of five arches, that on the north being Renaissance, while that on the south is Gothic. The latter is an elaborate composition, of five high open cusped arches of yellow marble with decorated mouldings and spandrels, carried on tall round columns, and over these a solid screen with pointed and gabled arches containing statues under a horizontal cornice. At the extreme east end of the choir is a circular chapel, doubtless of considerably later date than the church, covered by a hemispherical dome like those of the church, but lower. On the south side of the choir are three groined cloisters, larger and smaller,

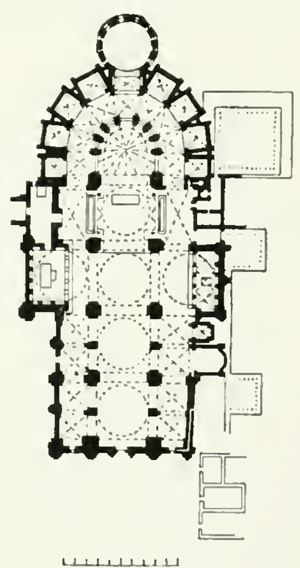


Fig 132.—Padua, S. Antonio.
Scale of 100 feet.

from which spring the cross arches of the nave and aisles. The aisles are covered by barrel-vaults, and from each opens a continuous line of chapels, two to each bay, above which the aisle is carried up nearly to the height of the nave and lighted by round windows. The arms of the cross are long, and in each the short bay next the crossing is barrel-vaulted; beyond it are three domed bays in the nave, and one in each arm of the transept and choir, which end in great round apses. The crossing is covered by a high dome on a round drum. The transept and choir are flanked by aisles, all of which end in round apses. The choir, of great depth, has a fine range of stalls richly carved and backed by an order of Corinthian columns, enclosing Bible subjects in high relief. The front is unfinished and bare. The sides show the high walls of the chapels with round-arched windows, and higher, the walls of the aisles like a clerestory, with gabled bays divided by pilasters, and a single round window to each bay. On the north side is a fine cloister by Pietro Lombardo, resembling the *cortile* of a palace. On an open arcade of piers with engaged Doric columns and entablature is a second story with an order of Ionic columns on pedestals, with windows in the intervals decorated with consoles and pediments.

PÆSTUM (Poseidonia), Italy.

The Basilica, so-called, a Doric structure 80 ft. by 178 ft., south of the Temple of Neptune, and parallel with it, is a peripteros of nine columns by eighteen, a little less than 6 ft. in diameter at the base, on a stylobate of three steps. The columns have a marked taper and entasis: the echinus, wide-spreading and weak, has in place of the annulets a roll, beneath which is a hollow necking of Doric leaves. The usual upper moulding of the architrave is represented by a separate course, and the frieze is without triglyphs. There are five columns between antæ in the pronaos, and the cella is divided into two aisles by a central range of columns like those of the peristyle. This unusual plan may be compared with that of the Corcyræan Stoa at Elis, as described by Pausanias, and also, in its uneven number of columns on the fronts and even number on the flanks, with that of the Temple of Zeus at Girgenti. The cella walls are gone, except the antæ. It was probably a double temple, having each aisle of its cella dedicated to a separate divinity—presumably to Demeter and Kora. In its architectural details it is very similar to the Temple of Ceres, and it probably dates from the beginning of the VI century B.C.

Fortification-Walls, of good, regular Hellenic masonry, apparently dating from the second half of the IV century B.C. The plan is an irregular polygon over three miles in circuit. Four gates open toward the cardinal points. That on the east is well preserved, and is vaulted; the keystone on one face is carved with dolphins, that on the other with a Nereid, emblematic of the domain of Poseidon. They are standing in places to a considerable height.

Temple of Ceres, so-called (or of Vesta), in the north part of the city, near the Salerno gate. It is a Greek Doric peripteros of six columns by thirteen, 5 ft. 3 in. in diameter at the base, on a stylobate of three steps measuring 47 ft. by 106½ ft. on the edge of the top step. The columns stand exactly upright; they have much entasis and upward diminution; the echinus is wide-spreading and weak, with a small roll at its junction with the shaft, beneath which is a hollow necking cut with leaves. The upper moulding of the architrave is represented by a separate course of considerable height. The frieze is formed of long blocks in which grooves were cut to receive the narrow triglyphs, all now fallen away. The metopes are smooth, with the usual flat moulding on the top. The projecting parts of the cor-

nice are gone, except some portions above the two pediments. The cella had no opisthodomos. Before the pronaos with its projecting antæ was a portico of four by four columns, the front range raised on one step, and the two next columns of the side ranges raised each one step more.



Fig. 133.—Pæstum, Temple of Neptune.

These columns had twenty-four channels; those of the peristyle, twenty. About one-third of the cella was cut off for a rear chamber, which had a door in the rear. At the back of the main chamber there was a long, narrow cell projecting from the dividing-wall; this cell may have been an adytum, or possibly enclosed the cult-statue. As in the other temples of Pæstum, the cella has been carried away down to its platform, for building-material. This building, displaying in its details various Ionic elements, may be dated from the early VI cent. B.C.; there are some traces of a Roman restoration.

The TEMPLE OF NEPTUNE, so-called, ranks with the Theseum at Athens and Temple of Concord at Girgenti, as one of the three best-preserved Greek Doric temples, and presents a most majestic effect. It is in the southern part of the city, side by side with the so-called Basilica, which like it fronts on the agora. It is a peripteros 80 ft. by 190 ft., of six columns by fourteen, 29 ft. 2 in. high and 7 ft. 5 in. in diameter at the base, on a stylobate of three steps. The peristyle columns have twenty-four channels, but slight entasis, and diminish much toward the top of the shaft. The entablature and pediments are intact, except for a few of the cornice-blocks. The cella was raised above the pronaos and opisthodomos on a somewhat high basement; the pronaos and opisthodomos each have two columns *in antis*. Its walls, except the antæ, have been almost wholly removed as building-material. In the pronaos were stairs leading to the upper parts of the building. The interior of the cella was divided into three aisles by two ranges, still complete, of seven Doric columns, nearly 6 ft. in diameter, with antæ at each end of each range. Above these ranges of columns were smaller ranges, now incomplete. The central aisle is only about 13 ft. wide. The material is the rough local travertine or limestone, full of cavities, and now of a rich yellow color. The surface was coated with fine stucco, now nearly all fallen away, upon which the polychrome ornament was applied. The temple may be as old as the middle of the VI century B.C. (*See Fig. 133.*)

PALAIROS (Kechropoula), Acarnania, Greece.

The WALLS are extensive and well preserved, partly in polygonal masonry and partly in Hellenic. A very notable feature is a large gate covered with a true barrel-vault of hewn voussoirs, which is shown by the construction to be contemporaneous with the polygonal masonry in which it is enclosed. Within this gate appear remains of a street, of the agora, of several large buildings, and of two oval cisterns. At the N. E. angle is a great square tower with a double stairway, and on the west side access is afforded to the platform of the wall by stairways of over

twenty steps. Here and in other places the walls survive perfect, except for the battlements.

PALATITZA, Macedonia, Turkey.

PALACE, of Greek construction and Hellenistic epoch. The façade measured about 280 ft. in length, and the depth of the building was much greater. The central portion of the façade formed a monumental propylæum with columns which appear to have been flanked by porticoes, and whose broad passage, with three transverse divisions, extended through to the great central court. The passage is flanked by a number of rooms, some of them very large, and one circular, whose precise destination is not made out. The central court was probably colonnaded, and it is established that a considerable structure stood at the back of it, probably the actual abode of the prince ; the excavation of all but the propylæum is, however, very incomplete. The architectural elements found include large and small Doric columns and entablature, Doric semi-columns, Ionic piers and antæ, and a beautiful antefix in terra-cotta. The design and execution, though testifying to a somewhat advanced date, are refined.

PALERMO, Sicily.

The CATHEDRAL, called also the Matrice, is a Gothic church which dates from the XII cent., but has mostly lost its ancient aspect. It is a large three-aisled basilica, with transept and three eastern apses, some 360 ft. long and 160 ft. across the transept. The broad nave (over 50 ft.) is in ten bays. The piers, originally groups of four detached columns, were walled up solidly at the end of the last century, when the splendid wooden roof was replaced by a white vault and a high dome built over the crossing by Fernando Fuga, against the protest of the architects of Palermo. The narrow aisles are bordered by ranges of chapels, which are interrupted in the middle of each flank by a triple-arched recessed porch. The exterior retains in the main its aspect of the XIV cent., and shows in its rich detail a singular mixture of Italian Gothic and Saracenic character. Four slender towers mark the four corners, flanking the façade and the end of the choir. The façade itself is a rather bald screen, covering the nave and aisles, and ending in a rich horizontal cornice with a dense arcaded corbel-table above a kind of close-set brackets, and crowned by battlements. Tall pilaster-like buttresses suggest the division into nave and aisles ; the central compartment is occupied by a great shallow blind arch enclosing the main doorway at the bottom and broken at the top into a gabled line above the clerestory window. This window and door are of the late Gothic of the XIV cent., with jambs and heads richly decorated with shafting and carving. In each side compartment is a door and window of earlier date, probably of the XIII cent., to which belong the corner towers with their successive stories of two-light shafted windows and low spires rising among gables and pinnacles. The horizontal cornice of the front is continued all round the clerestory of nave, transept, and choir, and the battlements are repeated at the eaves of the aisles and the bordering chapels. The high clerestory walls are panelled in pointed arches outlined in mosaic, and every other one occupied by a window ; the walls of the apses are elaborately decorated with interlacing arches and bands of marble mosaic. The vaulted porch on the south has three broad stilted pointed arches with slender supporting columns and buttressed by low arcaded turrets, above them a frieze and low gable filled with rich blind tracery. Over the crossing rise Fuga's dome and cupola, on a round drum with an order of Corinthian pilasters and pedimented windows between, crowning the building well, but offending by its incongruous style ; and a series of smaller domes over the aisles

blocks the clerestory windows without excuse. Two enormous pointed arches bridge the street before the front, connecting the façade with the campanile opposite the nave, which makes part of the front of the adjoining archbishop's palace. This tower rises in a huge bare rectangular mass above the level of the nave, and is then broken into an elaborate composition of a central tower surrounded by an arcade with angle-turrets at the corners. This upper part is, like the upper parts of the cathedral itself, later and more purely Gothic in type than the body of the cathedral. The central tower has two high belfry-stages above the arcade, of two-light and three-light windows with traceried heads and shafted mullions, the corner turrets are boldly panelled with blind arches and shafting, and all end in low octagonal spires. The building of the present cathedral, or the rebuilding of the older one on the same site, was begun in 1170 by Gualterio Offamilio (Walter of the Mill), the English archbishop of Palermo and chancellor of William II. of Naples and Sicily. It was consecrated in 1185 to Sta. Maria Assunta, was altered repeatedly in the next three centuries, and at last Fuga was let loose upon it in 1780–1801, with the effect that has already been described. Most of the early kings of Sicily were crowned and buried here, and their tombs remain. (*See Fig. 134.*)



Fig. 134 —Palermo, Cathedral, East End.

La Cuba, a noted garden palace in the suburbs of Palermo—one of the few purely Saracenic buildings still left in Sicily, but ruined. It is a plain rectangular mass of stone building about 60 ft. by 100 ft. and 50 ft. high, its walls broken by high pointed-arched panels which run up through all the stories, and are occupied by windows and niches capriciously distributed. The cornice carries an inscription which shows it to have been built by William II. in 1182 (the last figure of the date being somewhat uncertain). The interior is stripped and the central hall roofless. There are indications of a dome carried on stalactite pendentives, and it is conjectured that to this the palace owes its popular name of Cuba or Kubba, that is, dome. A group of pavilions surrounds it, of which one remains, a square open stone structure with a pointed arch in each face, and a round dome. The beauty

of the palace and surrounding gardens, two miles in circumference, was famous in their day.

The MARTORANA, or Church of Sta. Maria dell' Ammiraglio, is in its nucleus a small Byzantine church built in the first half of the XII cent., and dedicated in 1143 by the high admiral George of Antioch. The original mosaic pavement, still remaining, shows the outline of the old church, which was a square of about 35 ft. divided into nine bays by pointed cross-arches resting on four large columns of earlier style. Above the central bay was a dome on squinches, and at the east end three apses. The whole interior was lavishly decorated with marbles and mosaics on a gold ground. In 1433 the nuns of the adjoining convent, founded in 1193 by Giorgio and Aloisia Martorana (hence the name), begged the church for the convent. At the end of the XVI cent. they pulled away the front and added four bays to the nave, extending it till it reached the tower which had stood opposite. Later they tore down the apses, added a square raised choir for the nuns, a baroco façade against the side facing the piazza, and in other ways so disfigured the church that its beauty is confined to the dome and adjacent parts, where the original mosaic decoration has been allowed to remain. The striking tower, however, retains its old form. It has two square stories below, the first an open vaulted Gothic porch, then a story adorned with mosaics, and Saracenic in character, and above these two retreating stories with round arcaded corner turrets. All these but the lowest have pointed arched openings with sub-arches and mullion-shafts.

The OSPEDALE GRANDE, or Sclafani Palace, facing the Palazzo Reggia on the great piazza, is an old palace built, it is said, in the single year 1330 by Matteo Sclafani. It is much altered, but the south and east fronts retain their old aspect. A very high basement of two plain stories is broken only by a series of pilaster-strips which, running up into the third and principal story, end in slightly pointed interlacing arches with banded voussoirs, and enclosing double pointed windows, with mullion-shafts, under pointed arches. The tympana of the windows, the points and spandrels of the arches, are filled with a profusion of rosettes in colored mosaic. Above this rich third story is a range of pointed twin windows divided only by colonnettes.

PALATINE CHAPEL. See *Palazzo Reggia*.

PALAZZO SCLAFANI. See *Ospedale Grande*.

The PALAZZO REGGIA or Reale (Royal Palace), is a huge pile of buildings of various dates and styles, built on the site of a palace or stronghold of the Arab emirs, and used for centuries as a royal residence by Norman kings, the Spanish viceroys, and later rulers. Nothing is recognizable in it older than the Norman palace built by Roger II., in 1119. The outside is almost entirely modernized, and about the central court are grouped many handsome modern apartments. The great halls of the parliament on the ground floor have been turned into stables, but those in the upper story, reached by a handsome staircase of red marble, the Hall of the Viceroys, the Audience, and the Sala del Parlamento, fitted up on the return of the viceroys in 1550—are still handsomely preserved. Of the four towers that surrounded the Norman palace only one is left, restored in 1835, the tower of Sta. Ninfa, with panelled walls and pointed windows with mullion-shafts, containing the Norman hall, a vaulted room whose walls and vaults are richly decorated with mosaics. The upper part of the tower, used as an astronomical observatory, contains a room covered by a rich stalactite ceiling, of Saracenic character. But the finest part of the whole is

the famous Palatine Chapel, or Capella Palatina, part of the work of Roger II., about 1130, built, like the state apartments, in the upper story. Half imbedded in the other buildings, it counts for little outside. It is reached by a portico of half a dozen columns of Egyptian granite, and is a small three-aisled basilica, with transept, three eastern apses and a dome over the crossing. It is about 42 ft. wide, 105 ft. long, and 65 ft. high under the dome. The nave, 23 ft. wide, is in five bays: the broad pointed arches, much stilted, rest on antique columns alternately of granite and marble, fluted and plain, with capitals recut in a variety of styles, Byzantine, Lombard, and Saracenic. The columns are coupled and grouped at the crossing, where, over the four great arches, the square is brought to a circle on small diagonal arches and covered by a dome of horseshoe section. Over the transept arms are round barrel-vaults, over the aisles open lean-to roofs, and over the nave a rich Saracenic stalactite ceiling. All the wall surfaces are flat and smooth; there is hardly a moulding or detail in relief except in the nave ceiling, but the whole surface is enriched to the last degree of sumptuousness with painting, gilding, and mosaics, above the dado of colored marbles that lines the base of the walls. Innumerable pictures of apostles, saints, and martyrs, scenes from the Old Testament and the New, in mosaic on gold ground, added by the immediate successors of Roger, cover the walls, dome, and apses, mingled with ornamental work, Byzantine, Romanesque, and Saracenic. The choir-railing, altars, and pulpit are lavishly enriched with fine mosaic in the manner of the work of the Cosmati at Rome. The pavement is laid in Alexandrine mosaic of varied marbles, and under the raised choir is what serves as a crypt, perhaps an older chapel on the ground floor. This chapel is entered singularly, by two doors at the front end of the aisles: between them, in place of a middle door, is a kind of dais, as if for the royal throne, and a reredos is figured on the wall behind. Happily the whole chapel has come down to us almost unaltered in its early splendor. (*See Fig. 135.*)

Fig. 135.—Palermo Palatine Chapel.

S. Cataldo, one of the earliest of the Norman churches in Sicily, is a small building, both Byzantine and Latin in plan, said to have been built by Count Marsico, one of the royal family, in 1161.

It is only about 25 ft. by 35 ft., and is divided into a nave and aisles in three bays, those of the nave domed, with clumsy squinches, the aisles tunnel-vaulted. The arcades are pointed, as are the vaults of the aisles; of the three eastern apses the middle one projects slightly, the others are in the thickness of the heavy wall. The capitals are part Byzantine, Corinthian, partly carved cushion capitals; the floor is in a mosaic of interlacing bands. The church, sometime abandoned, has lately been used for the service of the Post Office.

S. Giovanni degli Eremiti, a small but interesting Byzantine church. Its history is in dispute, but a church and monastery existed here from a very early date, and it is certain that about 1132 Roger II. rebuilt or restored it, and gave the convent to the order of Montevergine, from which time at least the church has come down with little alteration. It has a nave of two square bays, a short bay and apse in place of choir, flanked on the north by a square tower, on the south by a bay which is now the entrance to some later additions. All the bays are covered by high domes set on squinches, and the tower ends in a small dome, behind a parapet which is repeated at the eaves of the church. The arches are mostly round, but those across the nave, the entrance, and the openings in the belfry are pointed. The peculiar plan and the group of domes on the outside give the church such an oriental look that several authorities have argued that it must have been a mosque of the Saracens taken for Christian worship.

S. Giovanni dei Leprosi. This ruined church, interesting as perhaps the oldest of the Sicilian churches, was built by Robert Guiscard and Roger I., in 1071, at the moment of the Norman conquest of Sicily. It is a three-aisled basilica with transept and domed crossing and three eastern apses. The arches are pointed, the nave and aisles of four bays divided by columns. It took its name from a hospital for lepers which was annexed to it by William II.

Sta. Maria della Catena, a church of mixed architectural styles dating from the end of the xiv cent., with a front much later. Its plan is a rectangle, with a total length of about 120 ft., and a breadth of about 52 ft. The nave and aisles, of six bays each, are separated by arcades of depressed arches, carried on marble columns with composite capitals, and end in octagonal apses, which, as well as the bays of the nave, are groined and covered with frescoes. A cross arch marks off the two eastern bays for a choir, and a line of rectangular chapels flanks the four westernmost in each aisle. The front is covered by a projecting porch, as broad as the nave and aisles, approached by a double lateral staircase, of which the two flights meet in a central landing. The façade of the porch consists of three open segmental arches on marble Corinthian columns, with deep arch-mouldings. Thin pilasters rise from the capitals of the columns to the horizontal cornice, above which is a panelled parapet with flamboyant tracery. At the angles are square buttresses with panelled faces, carried above the cornice like turrets. The ceiling of the porch is groined. The name of the church recalls the chain which was stretched for defence across the mouth of the harbor, and also a miracle by which three condemned criminals, who took refuge in the original church on this site, were freed from their chains through prayer.

S. Spirito. This church and Cistercian monastery, about a mile south of the city, were founded in 1173 by Gualterio Offamilio, the English archbishop, under William II. The façade of the church was disguised in 1783, but the interior retains much of its old aspect. It is a small, plain, three-aisled church with transept and three eastern apses. The nave and

aisles are in three bays with pointed arches on rude columns and heavy piers at the crossing; the clerestory windows are single. Almost the only ornament is the arcading on the outside of the walls of the apses. The church is famous in history as that from which was given the signal for the massacre of the Sicilian Vespers, on Easter Monday, 1282. It has been lately restored.

La Ziza, an early Norman palace of Moorish style, built in the xii century. It is a rectangular block, about 63 ft. by 116 ft., and 80 ft. high, built of squared stone, relieved only by a turret-like projection in the middle of each end, and a panelling of pointed arches in three stories, in which doors and windows are inserted. Thin string-courses separate the stories, and also mark the roof, above which a once continuous parapet has been cut into battlements, mutilating the inscription that decorated it. Coupled windows occupy most of the panels with a sort of rudimentary tracery; the main doorway, now half blocked, was in a high arch running up into the second story. It and two lateral doors opened into a long vaulted vestibule or gallery crossing the whole front. Behind this, in the middle of the palace, is a square hall, made cruciform by niches on all sides, and decorated with marble columns, painted tiles, and honeycomb ceilings. A fountain in the niche at the back flows, or flowed, into a conduit broken by fish-basins, which crosses the floor of the hall. This hall is repeated in simpler form in the upper stories, and surrounded by staircases and smaller rooms. The palace has been supposed to date from the x cent., but the testimony of contemporary writers shows it to have been built by William I. (who died in 1168), undoubtedly by Moorish workmen, and possibly enclosing remains of an older building.

PALESTRINA (anc. Præneste), Italy.

The Sanctuary of Fortune was a very ancient and renowned foundation, and occupied ten successive terraces, rising one above the other, now covered by the modern city. The terraces were formed partly from the natural rock, and partly of vaulted substructions. There are abundant remains of the primitive construction, in the form of Cyclopean walls serving as retaining-walls for the lower terraces. The first terrace, 1,220 ft. long at the base, is enclosed with walls of squared masonry. On it are remains of a large vaulted reservoir, a monumental piscina or basin, and a fountain which was ornamented with horses. On the second terrace, built into the seminary, is an ancient building, on whose front appear engaged Corinthian columns about 20 ft. high on a basement of equal height. At the north end is a raised arched tribune with a niche on either side. Here was found the celebrated mosaic floor known as the Mosaic of Palestrina. Around the hall is carried a podium 4½ ft. high, with a cornice and a frieze of triglyphs and metopes with rosettes; upon this basement stand the bases of a range of Corinthian pilasters and semicolumns. The pavement is in white mosaic with a black border. This building was probably the Temple of Fortune, mother of Jupiter and Juno. West of this temple there is an artificial grotto, vaulted, about 17 ft. in width, with three niches in the rock at the end. The floor was covered with a highly artistic mosaic, of which portions survive. This grotto is believed to have been the seat of the famous Prænestine oracle. On the sixth terrace there are a number of semicircular structures, some of them retaining their semidomes; these presumably represent pavilions or exedras; there are also several vaulted chambers. The seventh terrace, which is about 370 ft. long, presents a range of vaulted chambers about 14 ft. square, interrupted in the middle to give passage to the broad stairs leading to the terraces above. The most notable feature of the eighth is a vaulted portico of nine

arcades, decorated on the front with Ionic semi-columns, and communicating by arches in the rear with a vaulted gallery. At either end is a projecting wing, also vaulted, with Corinthian pilasters and semi-columns which have capitals of pure and comparatively old style. The floor was in mosaic. Most of the masonry of the higher terraces is in *opus incertum*, the voussoirs and certain bands, etc., being in blocks of tufa. The ninth terrace is characteirzed by the massive foundations of a large semicircular structure. On either side are indications of other constructions — perhaps lodgings for priests. On the tenth terrace, beneath the existing chapel, there remain foundations of a small circular edifice, doubtless a shrine or temple. This edifice was destroyed at the end of the XIII cent. by Pope Boniface VIII. The total height of the ten terraces is 365 ft.

PALMYRA (Tadmor), Syria.

Basilica, possibly a temple or a mausoleum, near the city wall on the west side, south of the end of the colonnaded street. It stood on a raised terrace with flights of steps. In the middle was a tetrastyle portico with a pediment, and on each side a wing or portico of five ranges of four Corinthian columns. Three of the interior columns are still erect, with the pedestals of many others. The frieze and the capitals are very delicately sculptured. The large apse opposite the tetrastyle portico is still standing; it has niches and pedimented windows. A broken architrave-block bears the names of Diocletian, Maximian, and Constantius.

Colonnaded Street, running N. W. from the triple portal. The columns were in four rows, Corinthian, unfluted, about 25 ft. high, with brackets on their shafts



Fig. 136.—Palmyra, Street Colonnade.

for statues. They probably formed the fronts of a system of covered porticoes along the street, and there is indication that there was above a second story with smaller columns. The ranges of columns extended for a distance of nearly three quarters of a mile, and included at least seven hundred and fifty columns, of which about one hundred and fifty are still standing with a great part of their entablature. The series of columns is interrupted at intervals by arches built into the colonnades, and forming part of them. South of the middle of the length of the street a cross-street is marked by a *tetrapylon* or four-way gate. Two of the four massive corner-piers are still standing, with pilasters and the abutments of arches which spanned the portico. Opposite the piers four great monolithic columns of Egyptian granite stood out in the street. One of these still stands; the shaft of a second, which has fallen, is 29 ft. long and about 3 ft. 4 in. in diameter. At about the middle

of the street was a second tetrapylon, this one vaulted: twenty columns remain standing of the street which diverged here toward the west. Ruinous remains of many ancient buildings lie along these streets, some of them with columns or with arched portals. The oblique street led from an open (market?) place through an imposing triple arch. To mask the obliquity, the two faces of the archway were made divergent, giving a wedge-shaped plan. Portions remain of the six arches of the gateway and of the walls, niches, and small arches which connected the diverging piers of its two faces. The height of the chief surviving arch is 34 ft.; it is richly sculptured and is flanked by two Corinthian pilasters. The material is a yellowish limestone. (*See Fig. 136.*)

Great Column, north of the enclosure of the Temple of the Sun. It is about 58 ft. high and stands on a pedestal. An inscription in both Greek and Palmyrene tells that it was erected in honor of the family of Alilamos, in 138 A.D.

Sepulchral Towers. The conception of these towers, which were no doubt family tombs, is oriental, but in their construction and details they are Roman. Many of them are standing in the necropolis which extends chiefly to the west and N. W. of the city. One of the best preserved, the Tomb of Iamblichus, is about 58 ft. high, with a basement in large blocks, above which are three retreating steps supporting the square tower proper, which terminates above in a cornice. The door in the north side of the basement opens beneath a triangular pediment. About half way up the tower on this same side are the remains of a sculptured and bracketed roofed balcony which was no doubt intended to receive a bust or statue. The lowest interior chamber, 27 ft. square and 20 ft. high, has niches separated by Corinthian pilasters, at the back a sculptured figure and two rows of busts, and a coffered ceiling colored in blue and red. The Tomb of Etabalus, on the S. W. side of the valley, called by the Arabs Kubbet el-Arûs, is of the same type. The square tower rises from three steps which rest on a rectangular platform. The door is in the south side and the lintel bears the inscription by which it is identified. At about half the height of the tower there is a large niche in the wall, containing a sarcophagus in the form of a couch. The chamber on the ground-floor is about 28 ft. by 12 ft., and 20 ft. high, and is ornamented with pilasters, a frieze, and busts with inscriptions. The ceiling is coffered, and has mouldings and rosettes in white on a blue ground. The upper chambers are like those of the tomb of Iamblichus.

Temple of the Sun, or of Baal, on a platform a little south of the middle of the great court. It was a Corinthian peripteros, about 102 ft. by 195 ft., oriented north and south. A few of the columns remain, especially on the east side; they are fluted, and have lost their capitals, which may have been of bronze. Opposite the west gate of the court the temple has a rich portal between two columns, leading into the peristyle. On the east and west sides of the cella there are each four windows. The door of the cella is 33 ft. high, and of good design; its soffit bears a sculptured eagle on a starred ground between two genii. The cella is surrounded by a frieze of figures and garlands. In the apse at the north end of the cella is a niche ceiled with a square slab carved with the signs of the zodiac surrounding seven pentagons with busts in high relief. At each end of the temple is a stairway leading to the upper parts of the building. This temple was restored at the expense of the Emperor Aurelian, in 273 A.D.: a mosque has been built into it. The enclosing-wall surrounding the raised terrace of the sanctuary included a square of 768 ft., and was about 50 ft. high. The north side remains well preserved,

the rest is much ruined, except the foundation, which is about 10 ft. high, built of large blocks, and about 20 ft. broader than the wall itself. The north wall is divided by thirteen pilasters, between which are square windows. At the corners are piers resembling towers, 68 ft. high, in groups of three. The Arabs patched up the wall and dug a moat outside of it to adapt it for a fortress. The chief entrance on the west, now destroyed, was approached by a flight of steps 120 ft. broad, leading up to a portico of columns 12 ft. high, before a triple portal. The interior was surrounded by a portico with a double range of columns, except on the west, where there was but a single range. This disposition is to be compared with that of the Court of Israel in the Herodian temple at Jerusalem. A number of the columns are still standing, with their entablature; they have on their shafts brackets for statues or other ornaments, a device almost universal at Palmyra. The original number of columns was about three hundred and ninety. The wall itself was ornamented with niches. The court, which is now occupied by the Arab village, was paved.

Temple, in the N. E. part of the site. It is tetrastyle, prostyle, with a porch of six unfluted Corinthian columns bearing the usual Palmyrene brackets for statues. Square Corinthian pilasters stand at the angles of the cella, and a window with a triangular pediment separates two Corinthian pilasters on each side. The entablature is in place, but is defaced, as is the door of the cella. Columns and cella are buried to a considerable height.

Temple, or perhaps tomb, at the north end of the colonnaded street, across which its front is built. It was prostyle, with six unfluted monolithic Corinthian columns with bases of approximately Attic profile raised on square pedestals. The central intercolumniation is wider than the others.

Wall, with towers, of Roman construction, probably of the time of Justinian. It is especially perfect on the N.E. side of the site, and extends to the S.E. corner of the enclosure of the Temple of the Sun.

PARENZO (anc. Parentium), Istria.

The Cathedral is the most important ecclesiastical building on the eastern shore of the Adriatic. It very closely resembles the two great basilicas of Ravenna, and is evidently of the same age. Inscriptions declare it to have been built by a bishop Euphrasius, and there was such an one, contemporary of the Emperor Justinian, to whose time the architecture clearly belongs. The octagonal baptistery, much dilapidated, stands in front of the church and is doubtless part of the original plan. Before it is a campanile of the xv century. Beyond the baptistery is a square atrium, like that of S. Ambrogio at Milan, though smaller; behind this the basilica itself. The atrium has an arcade of three arches on each side with Ravenna-like capitals and stilt-blocks. The façade of the church behind it was covered with rich mosaics, of which there are still remains. The interior has a nave and side-aisles divided by arcades into ten bays, again with Ravenna-like caps, partly of basket form, and partly Byzanto-Corinthian. The nave is plain and bare, nearly 30 ft. wide between the centres of columns and something more than 100 ft. long. It is therefore much smaller than the great basilicas of San Apollinaris at Ravenna, but the apse is finer and in better preservation than in either of these. The stone bench for the clergy still surrounds it, with the bishop's throne high in the middle. Above the seats is a high dado, richly inlaid with porphyry and colored marbles, above this the whole apse is covered with a splendid and well-preserved mosaic on gold ground full of pictures of the virgin and saints, among them Euphrasius himself. The apse is round within and polygonal with-

out, shows six faces, and so has a pier in the middle. A rich baldacchino of the XIII cent. covers the altar in the middle of the apse. Professor Eitelbeger ascribes the mosaics of the apse to the date of this canopy, but their style seems to suit the original apse. There are two modern tran-

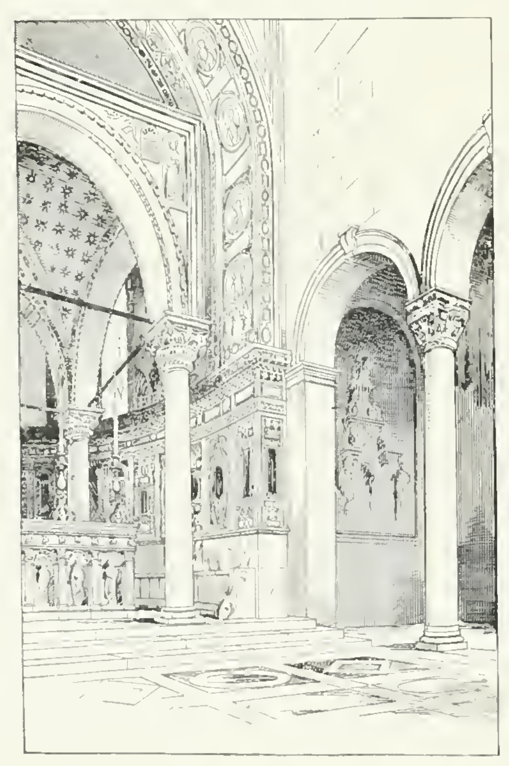


Fig. 137.—Parenzo, Cathedral.

sept arms, one now used as the choir, and on the north side a series of small chapels, curiously arranged, and perhaps older than the basilica itself. They show a trefoil of apses, round within and polygonal without, and, like the great apse, presenting an exterior angle in the middle. In these chapels are remains of fine mosaic pavements. The nave, whose floor was below that of the aisles, was also paved with mosaic, but the continual subsidence of the ground on which the church stands brought the floor below the water level, and it has been filled to the level of the aisles. A still older mosaic pavement seems to have underrun the whole church, including the side chapels, which gives color to the tradition that Euphrasius built his church on the remains of an older building. (*See Fig. 137.*)

The Roman Remains comprise vestiges of the Forum, and portions of the Capitol, the theatre, and two temples. The greater part of the stylobate of one of the temples is *in situ*; of the other, only two broken fluted columns remain in place. In the neighboring garden of the Marchese Polesini there are fragments of the architecture of these temples, including shafts of columns, a Corinthian capital, etc.

PARMA, Italy.

The Baptistery, one of the most important and interesting of the baptisteries of northern Italy, differs widely from all the others in form and construction. It is a lofty octagonal building, striped in gray and red marble, with six stories externally and a flat roof. On the first story each side is occupied by a round arch, of which three enclose deep doorways with decorated arch-mouldings and tympana. Above are four stories of galleries with slender columns supporting heavy horizontal entablatures, and an upper story of engaged round arches, also on columns. The angles are accentuated by broad flat pilasters with foliated capitals just below the upper cornice, and by octagonal pinnacles above the roof. Between the pinnacles is a light open fence of stone. The entire lack of correspondence between the exterior and interior is singular. The interior is a polygon of sixteen sides, each side occupied on the first story by a broad niche which is almost an apse, with slender columns in the angles, covered by a vault which springs from the second external story and occupies the height of the other four.

The exterior cornice is thus above the crown of the interior vault. A nearly flat wooden roof covers the whole. The building was completed, or first used, in 1216.

The CATHEDRAL (Sta. Maria Assunta), a notable example of Lombard Romanesque architecture, cruciform in plan, with apsidal transept and choir, and an octagonal lantern and dome at the crossing. The breadth across nave and aisles is about 80 ft., the whole length about 240 ft. The exterior design is consistent throughout. The façade has three doorways with round-arched heads, the central door being in a slightly projecting porch faced with lion-columns of red marble, which is carried up through two stories and finished with a low gable. Above the doorways are two similar stories of arcades, the arches arranged in groups of three. The façade finishes with the low Italian gable and an arcaded cornice over an open arcaded gallery with columns resting on steps, following the rake of the gable. At one angle of the façade is a square campanile of four stories, the divisions slightly marked by thin string-mouldings with arches below. The upper story has recently been partially rebuilt with four pointed arches on each side, and a low polygonal spire. The open galleries under the eaves, and the arcades below, are continued quite round the church. The apses are peculiar in design, being divided into circular-headed panels by slender shafts rising two-thirds of their height, with the arcaded gallery above. The octagonal lantern has likewise its open arcade, and over it a frieze of small blind arches. The dome is low, octagonal, and crowned by a small cupola. The interior has a nave and aisles of seven bays, vaulted, the nave arches round, with a triforium of tall round arches on slender columns, and a single arched window to each bay of the clerestory. The bays of the aisles are square, those of the nave oblong, each covered by a four-part vault; but the original plan seems to have been for a six-part vault, for from every alternate pier a broad square pilaster with angle-shafts rises from the floor to the spring of the vault to carry the cross-rib, while the intermediate piers have only a slender vaulting shaft springing from the capitals. The transept arms have each two apses, one on the end and another on the east side. Beneath the raised choir is a fine crypt of unusual size and height with a vaulted roof supported by many slender columns of marble with carved capitals. The crypt dates from the first half of the X cent., the church itself from the middle of the XI, having been consecrated in 1106, after the nave had been partially rebuilt in consequence of an earthquake. The chapels which line the aisles are late. The walls and vaults are covered with frescoes, of which those in the dome are by Correggio and are esteemed among the finest of his works.

S. GIOVANNI EVANGELISTA, a XVI cent. Renaissance church, with a square detached campanile of later date, bearing an octagonal belfry. It has a long vaulted nave and aisles, separated by square piers faced with fluted Ionic pilasters, a transept, apsidal choir and vaulted lantern at the crossing, with pendentives. The dome and the vault of the apse are adorned with frescoes by Correggio. The interior of the church, by Zaccagni, a local architect, dates from 1550, the exterior, in baroco style, decorated with two orders of pilasters, Tuscan and Ionic, and finishing in a singular broken outline, is by Simone Moschino, of Orvieto (1607). The church is attached to a large Benedictine monastery, finished in 983, and partially rebuilt at the end of the XI cent. by Bishop Siegfried. It has three quadrangles surrounded by arcades.

PASENATICO, near Parenzo, Istria.

S. LORENZO is a basilica consisting of a nave and two aisles. The nave, about 85

ft. long and 20 ft. wide, is of nine bays with round columns, carved capitals, and stilt blocks carrying the arches. It has three apses at the east end, a flat ceiling, and raised choir. The old round-arched clerestory windows are replaced by modern lunettes. The church has been classed as early Byzantine; but its carved and moulded details show that it is later, having the character of early Lombard work. It is ascribed by Mr. Jackson to the VIII or IX cent., and is valuable as a rare example of such work so far east. Two of the original apse windows are remarkable, being filled with a tracery of interlacing circles, and evidently not meant for glazing.

PATARA, Lycia, Asia Minor.

TEMPLE, small, but in many ways excellently preserved and of great beauty. It is *in antis*. The cella remains almost perfect, with its doorway, which is richly ornamented like those of other structures in the Corinthian style, and is about 24 ft. high.

THEATRE, a structure of the time of Hadrian, lavish in ornament and material. The cavea, 265 ft. in diameter, is excavated in a hillside, and has an upper and a lower division, each of fifteen tiers of seats. An inscription on the east side of the theatre sets forth that it was built by Q. Titianus, and restored by his daughter Velia. The diameter of the orchestra is 96 ft.

PATRAI (Patras), Achaia, Greece.

ODEUM, adjoining the agora; described as the most magnificent of any in Greece, excepting that of Herodes at Athens. It contained a notable statue of Apollo which was dedicated from the spoils won by the Patrenses when they aided the Ætolians against the invading Gauls in 279 B.C. Its remains were found in 1889. It was a semicircular Roman structure in brick, with seats rising in tiers, and radial stairways.

PAVIA, Italy.

The CASTLE, the ancient fortress-palace of the Visconti, one of the largest and also one of the best preserved of the military houses of its period, is a vast pile of brick on the edge of the town, formerly consisting of four masses of building enclosing a quadrangle of some 300 ft. square, and with four massive and lofty towers at the outer angles. One side has disappeared with its two angle-towers; but the other three sides remain, and the entrance front toward the Piazza del Castello is in nearly perfect condition. It is about 500 ft. long, wholly of brick, with a battering basement rising from a moat, and two similar stories of large windows divided by columnar mullions into two openings with cusped heads. The entrance in the centre of this front is approached by an arched bridge, also of brick, protected by a low tower. The wall ends in a machicolated cornice, surmounted by tall, forked battlements. At each extremity of this noble façade rises a large square angle-tower, projecting from the walls, carried up two stories above them and crowned with forked battlements like those of the main building. The inner court is of great interest. It is surrounded by an arcade on both stories, the lower of simple pointed arches carried on strong round stone columns with large carved capitals; the upper of round bearing arches of brick, now partly filled up, but each originally enclosing four narrow openings with cusped heads and mullion-shafts and tympana filled with tracery. A small but richly decorated cornice completes this fine composition. The building dates probably from about the middle of the XIII century. Its interior, quite degraded, is now used as a barrack.

The CATHEDRAL (S. Stefano) is an unfinished Renaissance church, begun in 1488 when the old cathedral had been discovered to be in a dangerous condition. The plan, by Cristofero Rocchi, is imposing and presents some unusual features. A long vaulted nave in eight bays, with side

aisles and chapels, leads to a vast octagonal rotunda enclosed by eight clustered piers, joined by round arches and supporting a dome. Beyond this opens a choir, flanked by aisles and terminating in a semicircular apse. The transept had aisles from which opened four circular chapels. Large apses end the choir and transept arms, and every outside bay in the whole church, except across the front, is bordered by a semicircular chapel. The nave was to be flanked by two detached square towers more than 300 ft. high. Completed according to the design, the church would have been one of the most splendid in Italy; but only a portion was built. The eastern portion of the choir was finished in 1518, the whole choir a century later. In 1757 the transept was finished with the two chapels east of it, and in 1768 the great central octagon was

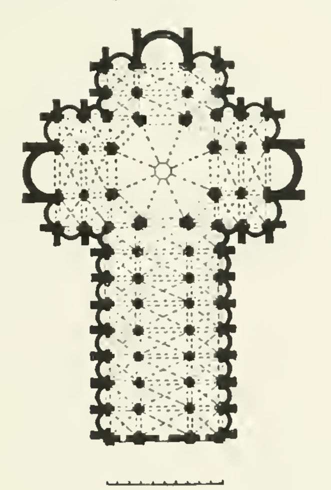


Fig. 138.—Pavia, Cathedral.
Scale of 100 feet.

built and the nave begun. The work still goes on, and the west end, including the façade of the church, is still unbuilt. (*See Fig. 138.*)

The CERTOSA, a Carthusian monastery founded in 1396 by Gian Galeazzo Visconti. Its architectural interest is confined to its celebrated church, one of the richest and most elaborately decorated buildings in Europe. A vestibule, with some much-decayed frescoes by Luini, leads to an inner court, at the farther end of which is the front of the church, which has a nave and side aisles, transept and choir, with a polygonal dome at the crossing. The exterior, except the front, is of brick, and is a curious mixture of styles in which the Lombard-Romanesque may perhaps be said to predominate, several of the most notable features of that style, as the round apse and the arcaded galleries under the cornice, being employed in almost unequalled profusion. The complexity of the design, however, makes the general effect more Gothic than Lombard. The projections of the chapels about the choir make three re-entrant angles in each shoulder of the crossing; each salient angle of the building (twelve in all) is marked by a small square turret, carried up into an open shrine or lantern; the buttresses and gables are crowned by pinnacles. The octagonal lantern at the junction of nave and transept is a striking and effective feature, composed of two retreating stories of open colonnades with entablatures, a third story of arches surmounted by a balustrade, and a Renaissance belfry with eight arches and pilasters at the angles, crowned with a high dome. The façade, nearly a century later than the body of the church, is wholly distinct from it in design, being an early Renaissance building, begun in 1473 by Borgognone, a Milanese architect, and finished after his death. It is divided by projecting pilasters into five compartments, the three in the centre being carried up to a level gallery of open arches with a heavy cornicione far above the nave roof, the two side compartments terminating at half the height of those in the centre, with open belfries at the extreme angles. The whole front has become of almost unparalleled richness by successive elaborations. The single doorway in the middle

is in a round arch, flanked by coupled Corinthian columns on either side with broken entablatures. In the side divisions are grouped windows with architrave, and 170 ft. in breadth across the transept, is scarcely less rich in decoration. The nave has four bays; the nave arches are round, as are also the arches by which the



Fig 139.—Pavia, Certosa.

frieze, and cornice. Above the first story a gallery of open arches runs the whole width of the front. Above is a range of windows, that in the centre being circular, those in the sides being round-arched and coupled. Every portion of the front is covered with sculptured ornament, the pilasters carrying ranges of statues in niches, and the wall being divided into panels decorated with carving and inlay of rich marbles, porphyry, jasper, bronze, medallions of the Roman emperors, heads of angels, bas-reliefs from subjects in sacred history. The decoration went on for two hundred years. The interior, which measures about 250 ft. in length chapels, fourteen in number, open from the aisles, two chapels to each bay, and the window openings above them; the vaults of the nave and aisles are six-part, the bays of the nave being square and those of the aisles oblong, in the usual Italian fashion. The wide pier arches rise to the springing of the nave vault, leaving no room for a triforium, and the clerestory windows are small lozenges cusped to quatrefoils. But in the high walls of the aisles, over the low chapels, a range of detached windows takes the place of a triforium, and the clerestory above them repeats the clerestory of the nave. The spaciousness and openness thus gained, the

double clerestory and line of chapels beyond, give the impression of a double-aisled church, and echo on a small scale the effect of the interior of Milan cathedral. The choir and side chapels are shut off from the transept by a high grille in iron and bronze of great richness and beauty. On the south side of the church are two cloisters, with beautiful arcades of terra-cotta arches decorated profusely with exquisitely modelled sculpture in high and low relief, and supported on slender marble columns. The larger of these cloisters measures 420 ft. by 330 ft., and is surrounded by the twenty-four small houses of the monks. (*See Figs. 139, 140.*)

S. FRANCESCO, a cruciform Gothic church of the XIV century. Its interior has been greatly altered and modernized, but the easterly portion remains substantially as of old. From the east wall of the transept open five square chapels, of which the middle one is the largest and makes the choir. The nave piers are cruciform in section, with large half-columns on each face which carry the longitudinal and transverse nave arches, and small vaulting-shafts in the angles. A row of chapels opens from each side aisle, with pointed windows. The exterior is of brick with a front of some elegance, divided into three compartments by projecting buttresses terminating the high round pinnacles. A single broad gable covers the entire front and masks the aisles, the central portion slightly raised. The first story is plain checkerwork with three doorways of rather mean design. Above is a fine large pointed arch, the principal feature of the front, now filled up with masonry but formerly with tracery. A rich terra-cotta cornice crowns the gable and encircles the building.

STA. MARIA CORONATA, a small Renaissance church, known familiarly as Sta. Maria di Canepanova, built in 1492 for Gian Galeazzo Sforza from the designs of Bramante. It is octagonal, divided into two orders, of which the upper is an open gallery of sixteen arches carried on alternate piers and columns, and crowned by a dome; and has an octagonal choir, also domed.

S. MICHELE, one of the most interesting of the Romanesque-Lombard churches of the XI and XII centuries. It is cruciform, with three aisles, square transept, an apsidal choir, and an octagonal lantern over the crossing. The dimensions are not large, the width of nave and aisles being about 83 ft., transept, 124 ft., total length 183 ft. Its exterior is extremely rude for the most part, both in design and execution. The façade rises to a single low gable without a cornice, and is unbroken except by four groups of shafts, decorated with zigzags and spiral rope-mouldings and bas-reliefs which, rising from the

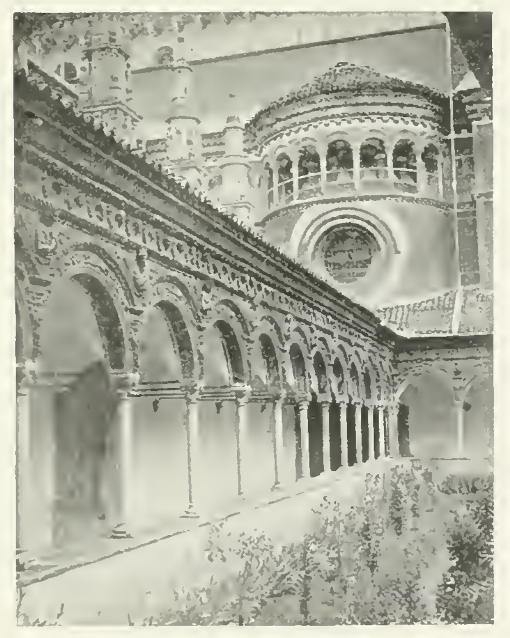


Fig. 140.—Pavia, Certosa, Cloister.

ground to the rake of the gable, stop there without capitals or other terminal feature. The front is thus divided into three nearly

equal compartments, in each of which is a round-arched doorway with splayed jambs and soffit, very richly decorated with carving in low relief, and a tympanum bearing a single standing figure of an angel. Above the central doorway is the figure of the archangel Michael standing on a dragon, and above each of the side doors a figure of a saint. Over these is a line of double-arched small windows separated by mullion-shafts. Higher yet in the central compartment are other small openings. Following the rake of the gable is an open gallery of tall narrow round arches, carried on slender shafts resting on steps. The lower half of the front is adorned with horizontal courses of continuous bas-reliefs, composed mostly of grotesque figures of birds and animals, rudely executed but very spirited and interesting. The apse is divided by shafts, single and grouped, running from ground to cornice, and pierced by two simple windows just under the spring of the vault. Above is an arcaded eaves-gallery, the openings in groups of two, divided by light shafts with capital and base; the groups themselves by square piers—an extremely graceful and effective decoration. A tall campanile rises from the north side behind the transept, of which that portion above the church wall is of comparatively recent construction and uninteresting in design. The interior is imposing. The nave, about 33 ft. broad, is divided into four bays by strong piers, alternately larger and smaller. On the faces of the piers, vaulting shafts with strong capitals rise to take the bold cross-ribs of the simple four-part vault. The aisles are vaulted in the same manner. Rather low round arches with strong and rude mouldings divide the aisles from the nave, and above these is a very broad triforium-gallery, opening from the nave by a single round arch in each bay, occupying the whole space between the piers as at S. Ambrogio, Milan (*q. v.*). The transept arms are square, as wide as the nave, and covered by barrel-vaults. The choir is a single square bay, vaulted like the nave, with a round apse of equal width, lighted by three windows and covered by a semi-dome. Its raised floor is approached by a flight of thirteen steps, and under it is a fine vaulted crypt, divided into three aisles by two rows of slender stone columns of various forms and with various capitals. From the piers at the crossing of nave and transept rises an octagonal lantern of two stories on squinches. The first story has large round-arched windows occupying nearly the whole of each face, the second story an open gallery of small arches under a low roof. The walls and vaulting of the interior are of red brick, and the effect of warmth and richness is striking. The original church on this site was built in the VII cent., and the local antiquaries have struggled to establish the identity of the present church with the VII cent. building. But the claim can hardly be maintained, and there is every probability that it dates from the end of the XI century.

S. Pantaleone, sometimes called Sta. Maria del Carmine, is a large and in many respects singular cruciform church of brick, of the XIV cent., with abundant exterior decoration in terra-cotta. The front is divided by projecting square pilasters—awkwardly managed and terminating in tall pinnacles—into five vertical compartments answering to the divisions of the interior. In three of these compartments are doorways with high pointed arched heads, and tympana with figures in relief. Above are four high pointed two-light windows with mullions and tracery, and above these again a large and rather fine rose window. The front terminates in the usual low gable, with an unusually elaborate cornice, but the central division of it is carried a little above the line. The original architecture of the sides has been much changed, but the

transept and choir appear to retain their primitive design, the angles being marked by buttresses or pilasters similar to those of the front, but without pinnacles, between which are high-pointed windows with trefoiled heads, and a large circular window above. These portions are also much decorated with terra-cotta. A fine bell-tower with a rich belfry stage rises from the intersection of the south transept and the choir. The interior, also in brick, consists of a nave with four square vaulted bays, each with two arches opening into the side aisles, which are vaulted like the nave but with double the number of bays. A line of chapels opens from each aisle, giving great width in proportion to the length. The transept arms and choir are each vaulted in a single bay. The high clerestory is pierced only by small round openings.

S. Pietro in Cielo d'Oro, a XII cent. church, with nave, aisles, and clerestory, a transept not projecting beyond the aisle-walls, a central octagonal lantern over the crossing, and a round apse opening from the eastern wall of the transept without any intervening tribune or choir. Its total length is about 160 ft., its breadth about 78 ft. The floor of the church is some 5 ft. below the threshold of the west door. The nave and aisles have five bays; those of the nave being oblong, those of the aisles square, distinguishing this church from the ordinary Lombard type. The piers are composite with an engaged column or pilaster on each face. Both nave and aisles are covered with four-part vaults, excepting the westernmost bay in each, which is barrel-vaulted. Each bay of the aisles has a simple round-headed window, and the clerestory windows are similar. The crossing is covered by an octagonal lantern, vaulted internally, the transept by barrel-vaults. The apse was lighted by three or five round-headed windows, and covered by a hemispherical semi-dome. A crypt, now virtually destroyed, extends under the apse and under the crossing. It was divided into five aisles, vaulted on small columns. The front is covered by one low gable, masking all the roofs behind, and divided into three compartments by two unequal buttresses, one of which contains a spiral stair. The lower half of each compartment is occupied by a blind arch, the middle one containing a doorway with curiously decorated jamb-pilasters and shafts, a round arch, and a low sculptured gable. These three blind arches apparently correspond to the arches of a great vaulted porch, traces of which are still to be seen on the pilasters of the front. Above are two ranges of small windows in the centre. An arcaded gallery follows the rake of the gable. The apse also has buttresses, of greater projection, and above them an arcaded eaves-gallery. The low lantern is terminated by an open gallery of arches on columns. The church was consecrated in 1132, by Pope Innocent II.

S. Teodoro, a late Lombard church of brick, with nave, aisles, clerestory, and transept — not projecting — three eastern apses, and a central octagonal lantern. Its dimensions are small, about 107 ft. by 55 ft. Its exterior is simple Romanesque, the front in three divisions separated by square buttresses, the central division containing a round-arched doorway with some ancient sculpture, and a rose-window above, a single low gable covering the whole. The side buttresses are joined to those of the clerestory by hidden flying buttresses, carried on the cross-ribs of the aisle-vaults, and showing through the aisle roofs like ascending parapets. The transept walls end in low gables. The three apses are divided by slender round shafts with capital and base, ending in an arched corbel-table and simple cornice, with an octagonal tiled roof. The plain windows are everywhere round-headed. A characteristic central lantern over the crossing leaves the roof as a square, and changes to

an octagon with an arcaded gallery decorated with round plaques of majolica in the spandrels, and with two smaller stages above. The interior shows a nave and aisles of three bays each, square in the former and oblong in the latter, anticipating the system of the later Gothic churches of Italy. The piers, bearing round arches, are composed of a square with four engaged shafts. The nave and aisles are covered with unribbed four-part vaults. The bays of the transept are carried to a greater height, the central one being covered by the vaulted octagonal lantern, the sides by barrel-vaults. The floor of the transept, raised some 6 ft. above that of the nave, is approached by three broad flights of steps from nave and aisles. Three apses open from its east wall, the central one somewhat larger and deeper than the others. The crypt, extending under the whole of the transept and its three apses, is divided into seven aisles by small columns, and vaulted throughout in square bays. The whole interior of the church except the columns is of brick. The capitals are of rude and rather inferior character. There is no accurate record of the date of this church, but it may in its present form probably be referred with safety to the middle or end of the XII century. St. Theodore, who was bishop of Pavia 766–778, was buried in S. Giovanni in Borgo, but his body was later transferred to this church.

PERGA, Pamphylia, Asia Minor.

STADIUM, near the theatre. Nine tiers of seats with their vaulted substructions remain practically perfect; between these and the surviving podium bordering the arena there were probably three more tiers of seats. Above the existing seats there appears to have been a colonnaded gallery. The long axis is 771 ft., the width, 194 ft.; axis of the arena, 732 ft.; width of the arena, 115 ft. There is an arched passage through to the arena in the middle of the *sphendone* or semicircular end. Fellows describes it as quite perfect at the time of his visit (about 1840), including the seats on both sides.

THEATRE, of the time of Trajan or of Hadrian (98–138 A.D.). Next to that at Aspendos, it is the finest and best preserved in Asia Minor. The diameter is 330 ft.; the seats, of ogee profile, consist of forty tiers, which are mostly in place; the material is gray marble. The façade of the stage-structure is in good preservation; it has five great niches, 32 ft. to 36 ft. high, with columns of red-veined breccia between them. The theatre is in great part built up of masonry; at the top of the steep cavea is a gallery, which was arcaded at the back and colonnaded in front. There is one *diazoma* or horizontal passage, and in the lower divisions thirteen radial stairways.

PERGAMON, Mysia, Asia Minor.

Great ALTAR OF ZEUS, erected by Eumenes II., in the first half of the II cent. B.C., in course of the extension and beautifying of the city which followed the Pergamene triumphs over the Gauls. It rose in the middle of the higher terrace of the agora, and consisted primarily of a great base 98 ft. square and about 19 ft. high, in masonry of conglomerate cased in marble, and resting on a triple plinth. On the west the base was cut into by a broad flight of steps between projecting piers. In the middle of the top rose the altar proper, formed like that of Olympia, chiefly of the ashes of sacrificial victims heaped together. This area was surrounded by graceful Ionic porticoes facing outward, their back walls being turned toward the ash-altar. The sides of the base were surrounded, above a plain die crowned by mouldings, by the noted Great Frieze of Pergamon, sculptured in high relief with the varied scenes of an extensive Gigantomachy. These sculptures, which represent a new development of Greek art, are full of vigor and movement, while lacking the stately repose of the older Greek art,

and in their expression of the passions they approach the standpoint of modern art. This frieze, 7½ ft. high, was capped by a richly moulded and widely projecting cornice. The interior walls of the porticoes were adorned by the Small Frieze of Pergamon, about half of which has been recovered, and is now, together with the surviving portions of the Great Frieze, in Berlin. Its subjects, taken from local Pergamene history, are of less interest than the Gigantomachy.

The AMPHITHEATRE may be assigned to the beginning of the II cent. A.D., though its exact date has not been ascertained. The plan is elliptical, the greater axis 449 ft., the less 403 ft.; the arena is 167 ft. by 85 ft. The principal arched entrances were at the ends of the greater axis, which lies nearly north and south. The outer wall had forty-two other arches, separated by piers as wide as the arches. There are about thirty tiers of seats; the first tier being below the level of the soil without. The height of the massive piers and arches of the exterior walls reaches 85 ft. The seats are supported on very skilfully planned, rising, funnel-shaped vaults. The brook which flowed directly beneath the arena in antiquity, and was vaulted over, doubtless supplied facilities for converting the amphitheatre into a naumachy. The building, still very impressive in its mass, exhibits great technical excellence in its design and execution.

The ASCLEPIEUM, or Sanctuary of Asklepios (Æsculapius), as yet incompletely explored. This Corinthian temple, which appears to have been important, was approached by a monumental covered way starting from the arched gate beside the theatre, and extending the entire distance. The roadway, 12½ ft. wide, was bordered on each side by a range of piers set at intervals of 8 ft., and finished on the exterior side as Doric semi-columns. The piers were built of large blocks of trachyte.

The BASILICA, which has been called the Thermæ, is the most imposing of the Roman ruins of Pergamon. It was a huge structure of three aisles, to the east side of which other buildings were joined. The nave terminated in an apse flanked by two circular, tower-like, domed buildings. The masonry was partly of brick, partly of trachyte blocks, sheathed with marble wherever the walls were exposed to view. The cornices were supported by rich consoles. The columns of the interior were handsome monoliths of gray and pink granite. The early Christians appropriated this basilica for a church, and converted the two domed buildings into chapels of St. John the Evangelist and St. Antipas. The breadth of the basilica, including the two circular buildings, was over 330 ft. From these buildings a court nearly 700 ft. long extended toward the east, enclosed by a high wall adorned on the outside with marble columns. To obtain space for this court the Selinous River was bridged for a distance of nearly 650 ft., a truly remarkable accomplishment, which remains perfect to this day. The bridge consists of two massive parallel barrel-vaults of 29½ ft. span, each resting on one side on the bank and on the other on a continuous wall in the middle of the river-bed.

GYMNASIUM of the Νέοι, or Youths, of Roman date. The western portion formed a court about 250 ft. by 120 ft., surrounded by porticoes presenting fourteen columns on the small sides and twenty-nine on the others. The capitals are Corinthian, of manifestly Roman design, and the workmanship is superficial. An inscription shows that the gymnasium was not an imperial foundation, but was established by private citizens of Pergamon. On the slope above the N. W. corner of the court lie the remains of a semicircular structure 108 ft. in diameter. This was apparently an odeum, and its stage-structure must have stood upon the roof of the portico.

The Pergamene Library, instituted by Eumenes II., a foundation famous in antiquity, and second only to the great library of Alexandria, is recognized by Conze in four large rooms communicating on the west side with a number of other rooms, lying above the terrace of Athena. Stone framing, secured to the walls by metal clamps, received wooden shelves on which the manuscripts were ranged. The library was adorned with a large statue of Athena, and statues or busts of famous authors.

Temple, presumed to be of Dionysos. It was Doric, prostyle, tetrastyle, of marble, on a stereobate of two steps, affording an interesting example of the free treatment of old Doric forms in the Hellenistic time. The columns, 16½ ft. high, had twenty flutes separated by fillets, and rested on widely projecting bases. The echinus is carved with leaves, and the upper angles of the triglyphs display small acanthus-leaves. The soffit of the cornice is ornamented with diagonally intersecting lines and with rosettes, and the cyma exhibits ornament of foliage and tendrils and satyr masks for waterspouts. The dimensions are 24½ ft. by 41 ft.

Temple (Ionic), of the best Greek work, on a massive platform at the north end of the great terrace on the western slope of the acropolis. The walls and the ornate doorway are standing to about half of their original height.

Temple of Athena Polias (Pallas as Defender of the City), on the terrace of the acropolis immediately above that of the Altar of Zeus. Only the lowest parts of the foundations remain in place, but all the architectural members have been recovered and render possible a complete restoration. The temple, which was oriented north and south, was Doric, peripteral, hexastyle, with ten columns on the flanks, and measured 42½ ft. by 72 ft. The height of the columns was 17¼ ft.; their base-diameter was 2.47 ft.; the neck-diameter 1.98 ft. The shafts had but little entasis. The neck of the shafts on the capital-blocks is channelled, but the remainder of the shafts was left smooth, showing that the temple was never finished. The entablature was proportionately very low, and there were two triglyphs over every intercolumniation. The metopes were plain, and no signs of pediment-sculptures have been found. The cella had pronaos and opisthodomos, each with two columns *in antis*, and was probably divided into two chambers. The date of the temple is assigned to the IV century B.C.

The Terrace surrounding the temple was bordered on the north and east sides by handsome porticoes of two stories on a stylobate of three steps. The lower order was Doric, with very slender columns, and three triglyphs over every intercolumniation, surmounted by a blocking-course on which rested the second order of columns. This was Ionic, but bore a Doric frieze, which had four triglyphs over every intercolumniation. In the intercolumniations of the second story was a solid parapet whose slabs were sculptured with military trophies. The north portico, which was of more than double width, had an inner range of columns, set opposite every second column of the façade. These columns had Attic bases, smooth shafts, and bell-capitals of peculiar form. The façades of the porticoes were of marble, and their back walls of trachyte encrusted with the same material, adorned by niches for statues, framed by small Doric and Ionic semi-columns surmounted by an entablature. At the south end the east portico abutted against a massive square tower, adjoining which, at the back of the portico, was the chief entrance to the enclosure. This was a propylon with four interior columns, tetrastyle on its exterior face, which was of the same architectural disposition as the interior porticoes, but more richly ornamented. Pro-

pylon and porticoes are ascribed to King Eumenes II. In the Temple of Athena Polias were dedicated the spoils of the Gauls, and the back walls of the porticoes bore paintings commemorative of their overthrow.

The TEMPLE OF JULIA, daughter of Augustus, was a small peripteros, almost all of whose architectural members survive, though no longer in position. It was evidently pulled down in Byzantine times, and its materials used to strengthen the fortifications of the acropolis. Here they have remained, so that the temple, like that of Nike Apteros at Athens, might doubtless be rebuilt.

TEMPLE OF TRAJAN, or Augusteum. The architectural remains are of great size, in part very well preserved, and testify to the splendor of the temple. This temple, in the same manner as that of Athena, was surrounded on three sides by porticoes of one story, that on the north raised on a plain basement 13 ft. high. The temple was of white marble, Corinthian, peripteral, hexastyle, with nine columns on the flanks. The height of the columns was 32 ft. The cella had the form of a temple *in antis*. Between the consoles of the cornice bronze rosettes were introduced. The acroteria were rich anthemia supporting figures of Nike. The frieze was sculptured with Gorgon-heads separated by volute ornaments. The temple stood on a basement about 10 ft. high, with a flight of steps between piers in front. Its dimensions were $65\frac{1}{2}$ ft. by 108 ft. The capitals of the porticoes are of the type of those of the Tower of the Winds at Athens, with a range of acanthus-leaves below and plain pointed leaves above. Of two monumental exedras in the temple-court, one rectangular, the other semicircular, the first dates from Attalus II.

Greek THEATRE. The cavea had about ninety tiers of seats, most of which are still in place. There are two *diazomata* or horizontal passages of communication, and the bounding-walls of the cavea are polygonal and cut it considerably short of the normal curved outlines. The pavement of the orchestra no longer exists. The lintel of its northern entrance is sculptured with masks and bears an inscription of dedication. This theatre is ascribed by the architect Bohn, like the Great Altar, to the reign of Eumenes II.

Roman THEATRE, supported in part against the hillside, and on the two wings upon radial vaulted substructions. There appears to have been a gallery of columns above the uppermost tier of seats. The orchestra and the foundations of the stage-structure are silted up and have not been explored; the stage-structure was adorned with Corinthian columns. The diameter of the cavea is nearly 400 ft. Against the exterior of the south wing still stands an arched gateway of trachyte, corresponding to an ancient street.

THERMÆ. See *Basilica*.

PERUGIA (anc. Perusia), Italy.

ARCH OF AUGUSTUS, so-called, an ancient gate of the city, Etruscan in its lower portions, and of the time of Augustus above. The Etruscan part, with the two projecting bastions which flank it, is built of large blocks of travertine laid without cement. Above the arch, which is about 30 ft. high, there is a frieze with six little pilasters of Doric type, between which, in spaces corresponding to metopes, are circular shields in relief. Over this frieze there is a second arch, now blocked between two pilasters. The total height is 62 ft. The flanking bastions are crowned by graceful arcaded *loggie* of the XV century.

The CATHEDRAL, dedicated to S. Lorenzo, is a Gothic church dating from the beginning of the XIV cent., but much changed and injured by modern restorations. It has a nave and aisles about 65

ft. wide, in five bays covered by four-part vaulting, divided by octagonal stuccoed brick piers, and carrying pointed arches. The transept arms project by a single narrow bay beyond the aisle walls. The choir is square, with a polygonal apse and a square chapel on either side, and behind the northern chapel rises a small bell-tower. The exterior has been much transformed; many of the pointed windows have been walled up. The unfinished front has a single central doorway and a wheel window over it, once filled with stained glass. A side porch opens into the aisle on each flank, and by the side of the northern porch is an exterior pulpit corbelled out from the wall, its sides panelled and decorated with tracery and mosaic.

The Collegio del Cambio, the Hall of the Bankers or money-changers, is a small apartment adjoining the Palazzo Vecchio in the Corso, scarcely more than 16 ft. wide and 24 ft. long, remarkable for the beauty of its pictorial and other decoration. The walls are wainscoted with panels filled with delicate wood-inlay and Renaissance carving of great excellence, and covered above with frescoes of sibyls, prophets, historical and allegorical figures. The vaulted ceiling is also covered with frescoes of similar character, varied by arabesques. Opening from this room is a small chapel or oratory of nearly the same size, and decorated in a similar manner. All this decoration is the work of Pietro Perugino and of his pupils, Raphael perhaps included, and dates from the latter half of the XVI century.

Convent of Sta. Giuliana. This Cistercian nunnery is a fine example of early Italian Gothic. Its buildings remain almost entire, though mutilated by vandalic use as a military storehouse and hospital. The church has a simple nave with square apse, and is built of stone. To its left is the entrance to the forecourt, surrounded by halls, some of which are still arched, but have wooden roofs. Opposite the apse of the church the inner court or cloister is reached, one of the most perfect in Italy, and round it are grouped several interesting vaulted structures. The cloister has five wide pointed arches on each side, supported on octagonal columns with Tuscan foliated capitals. The low and wide groined vaults have pentagonal ribs that rest on consoles against the wall. Each side of the cloister measures 110 ft. The second story is perfectly preserved, which is almost never the case, and is more elegant in its proportions. A broad blind pointed arch corresponds to each bay below, and within it three pointed arches are supported on double marble shafts placed on a line with the wall. The material is brick. Round the cloister are grouped the monastic buildings. The capitulary hall divided into three aisles of five bays by eight columns supporting ribbed groin-vaults, is especially good. The same vault is also used in all the other halls, including refectory, mortuary chapel, kitchen, etc. Underneath the kitchen is a cellar with tunnel-vault. To the right rises a fine bell-tower. The cloister and several of the halls, especially the chapter-house, are still decorated with frescoes, some of the XIV and XV cents., but a large part of the second half of the XIII century. The nunnery was approved after its construction by Pope Boniface IV., in 1253, which gives the date of the buildings. Its architecture is worthy of careful study, not only for its beauty, but because it is a fine example of the second period of the Gothic form of Italian Cistercian architecture, during which the French forms were thrown off and native forms of construction and decoration developed. [A. L. F., Jr.]

Fonte Maggiore, the great fountain in the Piazza del Papa, the square between the cathedral and the Palazzo Pubblico, is one of the finest in Europe. It



MILAN—PIAZZA DEI MERCANTI







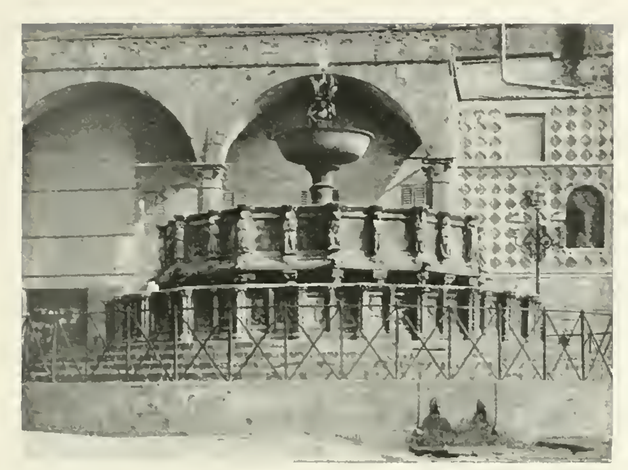


Fig 141.—Perugia, Fonte Maggiore.

dates from the last quarter of the XIII cent., and consists of two great polygonal basins of marble, the lower some 30 ft. in diameter, raised on four surrounding steps, the upper lifted on columns rising out of the water. Each basin has twenty-four sides, the angles of the lower basin marked by grouped colonnettes of varied and delicate design, those of the upper by figures nearly detached, and the panels of the lower basin charged with admirable bas-reliefs by Giovanni and Niccolo Pisano. From the centre of the upper basin rises a massive column of bronze supporting a third basin in the form of a tazza, also of bronze, in the middle of which stands a group of three water-nymphs by Rosso. (*See Fig. 141.*)

The Oratory of S. Bernardino is a small chapel belonging to one of the numerous confraternities, and remarkable for its beautiful early Renaissance façade, so small as to be scarcely more than a great doorway arch with its flanking pilasters carrying an entablature and pediment. The arch is deeply recessed, enclosing square twin doorways surrounded by architraves bearing an arabesque ornament in relief, and springs from bold square piers, each of which bears on its face two pedimented niches containing statues. The jambs of the arch are enriched with niches and reliefs flanked by classic pilasters; its soffit is coffered, and the tympanum bears in relief the statue of the saint surrounded by a nimbus, and flanked by flying angels and winged cherubs. In the pediment is a group representing the Saviour throned, with adoring angels and cherubs. The façade is of red marble, the architectural decorations of white, or yellow, the sculpture partly of white marble and partly of glazed terra-cotta, white on a blue ground. The whole decoration is so exquisite in feeling and so admirable in execution as to make this small façade deserving of a place among the highest works of the Renaissance. The sculpture is attributed

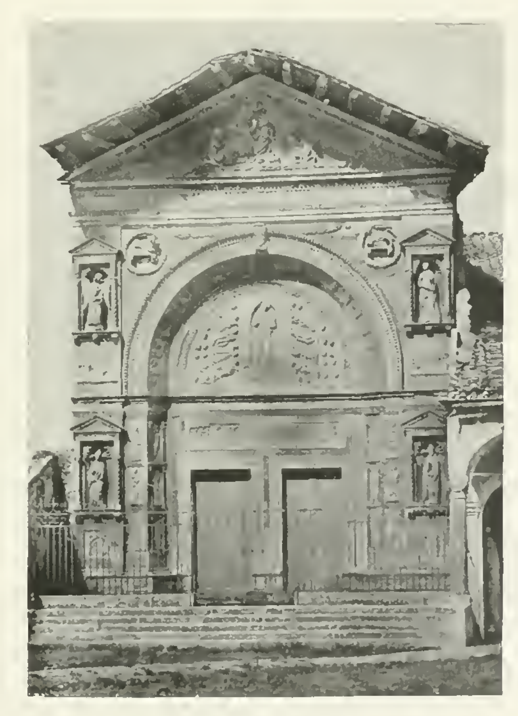


Fig. 142.—Perugia, S. Bernardino.

to Agostino Ducci, and the frieze bears the date 1461. (*See Fig. 142.*)

The PALAZZO PUBBLICO, the old Gothic municipal palace of the XIV cent., is much patched and altered in parts to adapt it to its modern uses, but retains its principal features substantially unchanged. It is a rectangular building in two principal stories, with two façades, the longer fronting the Corso or main street of the town, the other the Piazza, opposite the cathedral. In the longer façade is a broad and high round-arched recessed doorway, and on its left a high arch by which a narrow street is taken through the building and down the hill in the rear. Over the arch a simple bell-tower of no great height rises from the roof. The lower story is an arcade of plain pointed arches concealed where it fronts the square by a monumental stair leading to an arcaded platform from which the second story is entered. The windows of this story are triple pointed openings divided by slender shafts and enclosed in square panels.



Fig. 143. Perugia, Pal. Pubblico.

Above these is a broad space of blank wall representing a mezzanine story, with openings only on the court, and above this again the range of windows of the principal story, consisting of triple pointed openings under a round bearing-arch with traceried head, and covered each by a low gable. On this floor are the picture gallery and the public library. The wall is finished by an arched corbel-table and a fringe of restored battlements. (*See Fig. 143.*)

SS. ANGELI, an early Christian building of the V cent., restored in the XIII cent., but retaining some of its ancient features. It is a circular building, perhaps originally a baptistery, with a central ring about 45 ft. in diameter, enclosed by sixteen antique columns, arranged in pairs, alternately larger and smaller, supporting round arches. The surrounding aisle is now enclosed by a wall in which are to be seen portions of a second circle of twenty-eight columns, which indicate that the building had originally an outer aisle in accordance with the common plan of the early baptisteries. This has disappeared, and in its place were added four projecting wings, those on the west, north, and south square in plan, that on the east a semicircular apse. Over the central ring of columns the wall is carried up above the roof of the surrounding aisle, pierced with windows, and covered with a low pitched conical roof. The west end has a fine Gothic doorway, of the XIII or XIV century.

STA. GIULIANA. See *Convent.*

S. PIETRO DEI CASINENSI, an interesting basilican church probably dating from the VI cent., with a Gothic choir added perhaps in the XIV cent., formerly attached to a Benedictine monastery. It has a nave 36 ft. wide, with aisles vaulted in square bays and divided from the nave by two rows of nine antique Ionic columns of red granite and gray marble carrying arches, a transept not projecting beyond the aisle-walls, and a square groined vault over the crossing, with a polygonal apse

also groined. The flat coffered ceiling of the nave was added by Benedetto da Montepulciano in 1553, and its unpierced walls are covered with paintings by Aliense. At the west end of the church is a square cloister, with vaulted arcades on Tuscan columns. The church contains some interesting pictures by Perugino, Raphael, Parmeggiano, and other masters. The choir-stalls are remarkable for their exquisite wood-carving. (*See Fig. 144.*)

PESARO, Italy.

Palazzo Prefettizio, the ancient palace of the dukes of Urbino, built at the beginning of the XVI cent., from the designs of Bartolommeo Genga. It has a façade about 125 ft. long in two stories, of which the lower is an open arcade of six round arches springing from low piers of rustic stone-work, while the upper has a perfectly plain wall, with five rectangular windows enclosed by Corinthian engaged columns supporting an entablature. A balcony projects from the middle window. The front is crowned by a strong simple cornice. The interior contains some fine rooms, notably a great hall 50 ft. wide and 130 ft. long, with a deeply panelled wooden ceiling decorated with paintings.

Villa Monte Imperiale, an extensive country-house of the dukes of Urbino, built in the early part of the XVI cent. from the designs of Girolamo Genga, but never completed, and now fallen into decay. It is built on the slope of a mountain, and its plan is skilfully adapted to its site. Its façade, about 160 ft. long, is imposing, consisting of a long centre and two projecting wings; the former having in the basement story an open vaulted arcade of five round arches, and in the principal story an order of coupled Ionic pilasters on a balustrade course, with niches and panels in the intervals. The great enclosed court is on the level of this story, and at a still higher level in the rear is a large square garden. The interior contains many halls, loggias, and state apartments, elaborately decorated and painted, and a noteworthy winding staircase.

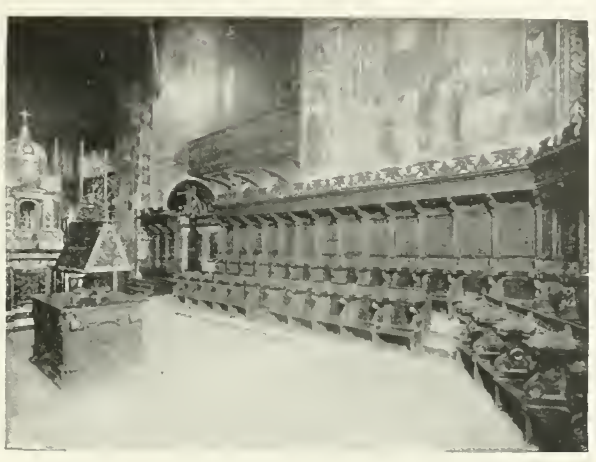


Fig 144.—Perugia, S. Pietro.

PESCARA. See *Casauria*.

PETRA, Arabia.

Corinthian Tomb, on the east side of the site. The lower story has eight engaged smooth Corinthian columns on a high pedestal. Doors open in the four northern intercolumniations. Above the entablature is a sort of attic carved with short pilasters supporting a second entablature, and in the middle two broken pediments. The upper story is of the type of that of the Treasury of Pharaoh (*q. v.*), having on each side a rectangular projection with two engaged smooth Corinthian columns and broken pediments, and in the middle a circular edicule with similar columns and a conical roof ending in a Corinthian capital. The entablature of the upper story is Doric.

The Dêr (Monastery), a rock-tomb resembling the Treasury of Pharaoh (*q. v.*). The lower story contains a door with a low triangular pediment, framed between en-

gaged columns, outside of which on each side are two engaged columns and an angle-pilaster with unfinished capitals of Doric outline. In each lateral intercolumniation is a rectangular niche with a semicircular pediment; the entablature is Corinthian. The upper story consists of the central circular edicule, with conical roof and terminal capital and urn, between two rectangular projections with broken pediments, as in the Treasury; in addition there is on each side a projecting pier. The entablature is Doric, the columns Corinthian, with capitals unfinished. The three edicules of the upper story have rectangular niches for statues. The walls of the interior chamber, 37 ft. by 40 ft., are bare, except for one niche. This monument is of larger proportions than the Treasury, its width being 156 ft., and its height about 100 ft. The upper story is in almost perfect preservation, as its comparatively isolated situation has protected it from the intentional destruction of the Bedouins. There is a broad levelled platform before the tomb.

Necropolis, distributed in the rock-sides of the gorges and steep hills which border the valley. The tombs are in great numbers, many of them with elaborately ornamented façades, some left unfinished, and thus exhibiting the method of working from the top downward, many so high up in the faces of the cliffs that they must always have been approached by ladders. The interior chambers are in general plain, but some of them are ornamented. One is surrounded with engaged Doric columns with an entablature; there are rectangular niches in the intercolumniations. Some are of the type in form of an edicule entirely detached from the original rock, like those in the Kedron Valley at Jerusalem. The style is in general debased and florid Roman, profoundly modified by Oriental (Phœnician) influences. With but few exceptions the surviving remains of Petra, apart from indistinguishable masses of ruins, are hewn from the living rock, a soft sandstone. The effect of the architecture is greatly enhanced by the wonderful natural coloration of the stone, ranging through brilliant red, pink, brown, yellow, blue, purple, gray, black, white, and dull green, often marvellously streaked and shaded, and by the remarkable wildness and desolation of the surrounding region. Some of the tombs have served, since Petra disappeared from history, for other than their original purpose; an inscription shows that one was dedicated to the cult of Mithras; others were consecrated as Christian chapels, and others came to be inhabited as dwellings. The funereal urn is a frequent and characteristic ornament of the tombs. On the east side of the valley is a tomb with a Latin inscription to Quintus Prætextus Florentinus. Another bears a Greek inscription. [Some of the chief tombs of the necropolis, commonly called by other names are here treated separately.]

Pharaoh's Palace, so-called, is a large square building. The walls, about 8 ft. thick, with holes for wooden floor-beams indicating several stories, survive almost entire. The north front had a portico of columns, now destroyed. On the east side is a large door, flanked by pilasters with enriched capitals. The cornice is rich, and the frieze bears triglyphs and rosettes; all this ornament is in stucco. The style is late Roman.

Theatre, the chief surviving monument of Petra. The cavea is entirely hewn from the rock, and has thirty-three tiers of seats. Above the auditorium open several rock-hewn chambers. The brook now flows through the remains of the stage-structure. The diameter of the orchestra is about 114 ft.

Tomb, in three stories, near the Corinthian Tomb, in the east wall of the valley. The lowest story has four doors framed in Corinthian pilasters, which were left unfinished. The two outer

doors have round pediments above an entablature, the two middle doors triangular pediments. In the second story are eighteen unfinished engaged Ionic columns, and cuttings in the rock in the intercolumniations indicate that it was intended to form an open loggia here. Above the entablature of the second story comes a barbarous attic of agglomerated pedestals and capitals in several tiers: and the third story was designed to have eighteen columns, like the second. This third story is now almost entirely broken away: it was doubtless intended to be in part built up of masonry, as its height must have exceeded, if complete, that of the original rock.

The Treasury of Pharaoh (Khazneh Firaun), so-called, is the most beautiful rock-tomb of Petra. In the lower story is a porch of six unfluted Corinthian columns, the four central ones projecting slightly and surmounted by a pediment. In the upper story there is on each side a broken pediment and entablature resting on two unfluted Corinthian columns, and in the middle a circular Corinthian edicule with four similar columns, and a conical roof terminating in a Corinthian capital and a finial urn, all engaged at the back in the rock. The entablature is carried across the rock at the back, between the central edicule and the side structures. The two upper side niches between the columns are carved with trophies in relief; the other spaces between columns in the upper story bear human figures, most of them of women, on pedestals; the spaces between the side columns of the lower story are also carved with figures, now much mutilated. There are nine acroteria, most of them in the form of eagles, now broken. The friezes and the lower pediment are delicately sculptured. In the lower story an open vestibule and richly framed door gives access to a plain chamber about 36 ft. square. The total height of the monument is about 85 ft., its width 96 ft. The style of the sculpture seems to indicate about the same date as the monument of Baalbek. The beauty of the effect is much enhanced by the rich red color of the stone.

Pharaoh's Triumphal Arch, of late Roman style, led to Pharaoh's Palace, with which it was connected by a paved road, and a colonnade. The front is decorated with sculpture and has three archways.

PHIGALEIA, Arcadia, Greece.

The Temple of Apollo Epicurius (the Helper or Protector) at Bassæ, outside of Phigaleia, on the slope of Mt. Kotylion, more than 3,000 ft. above the sea, between two summits covered with ancient oaks, was rebuilt after 430 B.C. under the direction of Ictinus, in gratitude to Apollo because he had spared the district from the pestilence with which the rest of Greece was afflicted at the beginning of the Peloponnesian War. For beauty of material and workmanship it was reputed to surpass all the temples in Peloponnesus, excepting that at Tegea. The temple is the best preserved of any in Greece, with the exception of the Theseum. It faces toward the north instead of toward the east. Three columns only of the peristyle are wanting, and the bases of the columns *in antis*, the architraves and the pavement, are still in place. It is a Doric hexastyle, peripteros, with fifteen columns in each flank and two between the antæ in the pronaos and opisthodomos on a stylobate of three steps; the ground plan is 121 ft. by 43 ft. The cella, too narrow for independent rows of columns, had on each side five piers projecting from the wall to support the timbers of the roof and terminating on their external faces in Ionic three-quarter columns. The material is a bluish-white limestone, the ornamental parts being in white marble, the roof tiled with marble slabs. The entire sculptured frieze in high relief which surrounded the interior of the cella is now in the British Museum. It is 101 ft. long and 2 ft. 1

in. high, and has plainly been shortened at several places to make it fit the building. Upon half the blocks are subjects from a contest of Centaurs and Lapiths, while the othere are carved with scenes from the war of the Greeks and the Amazons. The designs are vigorous and the execution good, but the majestic repose of the Parthenon sculptures has given place to violent and unrestrained action. There were six sculptured metopes over the interior porticoes of both pronaos and opisthodomos. Some fragments of a colossal acrolithic statue were found on the floor of the temple. It is plausibly contended that the only real cella of this temple is the small rear chamber with the door opening toward the east, and that the larger chamber of the temple was never roofed over, but formed an open court decorated with its range of Ionic pilasters and its unique interior frieze. From this point of view the temple was, in a sense, a hypæthral structure, as hypæthral was understood by those who believed that many large Greek temples were in part roofless.

PHILADELPHIA. See *Ammân*.

PHILIPPI, Macedonia, Turkey.

Greek Theatre, shown by its relation to the Hellenic ramparts to be contemporaneous with the foundation of the city. The plan is greater than a semicircle. The cavea is in part rock-hewn; the upper part appears from its masonry to be a Roman addition or restoration. The radius of the cavea is 109½ ft., the distance from the stage to the limit of the cavea, 152 ft. The back wall of the stage with its three doors is shown by its cemented masonry to be a Roman reconstruction. On the side toward the town the cavea is bounded by a massive wall in large rectangular blocks over 7 ft. thick, the finest piece of Hellenic masonry on the site of Philippi.

PHILIPPOPOLIS. See *Shohba*.

PIACENZA (Plaisance), Italy.

The Cathedral (Sta. Giustina) is a Lombard cruciform church of characteristic design, but with some unusual features. The façade is of marble and is divided vertically into three compartments by two slender round shafts rising from the ground nearly to the cornice. In each compartment is a projecting porch of two stories, that in the centre larger, but all substantially alike, consisting of two round arches carried on single columns resting on grotesque animals, the upper arch covered by a low gable. These arches are remarkable as standing and apparently firm without the usual tie-rod, though their support is even more fragile than most. An open gallery of graceful arches on columns runs above the side porches; above the central porch is a large and fine rose-window filled with tracery of an evidently later date than the front. A single low gable covers the front, and has an open-arched gallery beneath following the cornice. A square campanile rises out of the roof over the north compartment of the front, with a belfry with four arched openings on each face, and a round spire built of brick which reaches the height of 300 ft. The sides of the church are simple, with single round-headed windows, square buttresses of slight projection, and open eaves-galleries. The transept arms terminate each in three apses, the choir in one, and an octagonal lantern of brick with a low roof covers the intersection of nave and transept. The interior is in some respects peculiar. The nave arches, eight in number on each side, are continued across the transept, and the three arches opening into it are much higher than the rest. Nave and aisles are vaulted, the former in bays which include two arches, the vaults being six-part and those of aisles and transept four-part. Beneath the choir is a remarkably fine crypt of cruciform plan, and a vaulted roof carried on a great number of small columns. The church, founded in the IX cent., after being twice destroy-

ed and renewed, was rebuilt in its present form in 1233.

The PALAZZO DEL COMMUNE, or Townhall, sometimes called the Broletto, is one of the finest examples of an interesting class of civic buildings of North Italy, of which conspicuous examples are to be found at Como, Brescia, Orvieto, and other towns. It is a rectangular building with two high stories, the lower of white marble, varied by occasional courses of red and gray, the outer walls carried on open pointed arches springing from simple square piers, the ceiling vaulted in brick with stone ribs. The upper story is of brick, separated from the lower by a thin string-course, and pierced by narrow arched openings in groups of three and four, some with round heads and some with pointed, divided by coupled marble shafts of great elegance, and enclosed by large round bearing-arches with flat broad decorated mouldings, the tympana enriched with a diaper of brick. A fine arcaded marble cornice finishes this story, above which rise very bold forked battlements in brick. On the ends of the building the cornice and battlements are carried up into a low gable with a wheel window. The angles are marked by strong square battlemented turrets. The lower story is an open loggia, intended to serve for an exchange, as was the case with the *broletti* of many Italian towns. The date of the commencement of the work, 1281, is inscribed on one of the stones of the front.

S. ANTONINO. A cruciform Lombard church of brick, formerly the Cathedral, with a singular plan, the ordinary arrangement being reversed and the transept near the west end, with the nave, but not the aisles, projecting westward from them in a single square bay. At the east end, nave and aisles terminate in round apses. The whole church is vaulted, and at the intersection of nave and transept eight columns and four corner piers carry a lantern which becomes an octagon above the vault of the nave, and which might rather be called a tower, since it rises to twice the height of the church roof, with four stories of arched windows—those of the three upper stories coupled—and a low octagonal roof. The aisles have flat external buttresses, with narrow lancet windows between, with cusped heads. The church was dedicated in 1014. A large brick porch or façade, called Il Paradiso, was added to the north transept in the middle of the XIV century.

S. SEPOLCRO, a Renaissance church, built by Bramante in 1531. Its plan is interesting and picturesque: a nave about 30 ft. wide divided into four bays, of which the first and third are square and covered by groined vaults, the second and fourth narrow and covered by barrel-vaults. The aisles, half the width of the nave, are divided into bays corresponding with those of the nave, the larger bays being covered by barrel-vaults and the smaller by little domes. A range of chapels with apsidal ends flanks each aisle. Each transept arm has two bays with barrel-vaults, an apsidal end, and a small apse in the eastern wall opposite the aisle. The square at the crossing is covered by a groined vault like those of the nave. The choir has two rectangular bays with barrel vaults and an apse. This church was appropriated by the Austrians as a military hospital during their occupation of northern Italy, and has been closed since their departure.

S. SISTO, a fine basilican church of various dates and styles, but now mainly Renaissance. Its plan is remarkable. The church is preceded by a fine atrium or fore-court enclosed by arcades with Ionic columns, and square bays with groined vaults. From this atrium the church is entered through a western transept with a round dome covering the central compartment. The nave, about 30 ft. wide, is covered by a barrel-vault. Its length is about 70 ft. between the western and east-

ern transepts. It has double aisles on each side divided by Ionic columns of gray granite into square bays, each covered by a small flat dome. The outer aisles are flanked by an equal number of small chapels, each consisting of a flat apse lighted by two windows. The eastern transept ends in apses to the north and south, and over the crossing is a high round dome with a colonnaded drum. The inner aisles are continued on either side the choir by a square bay with an eastern apse. The choir is of great length, as long indeed as the nave, and is in three square bays with barrel-vaults divided by transverse arches, and with a square east end. The original church, which appears to have been built about 874, was burned in 1260 and rebuilt in a style of pure Gothic, says Mothes. A new choir was built in 1529, and a new front in 1590. It was as an altar-piece for this church that Raphael painted the so-called Sistine Madonna, now at Dresden.

PIENZA, Italy.

The Cathedral, built for Pius II. between 1459 and 1463, by one Bernardo of Florence, probably Bernardo Rossellino, is one of the earliest works of the Renaissance, and retains much of the feeling of the earlier styles. It is a small church, about 130 ft. long and 95 ft. across the transept. The simply outlined front shows a curious conflict between horizontal lines and the vertical, being divided horizontally by an order of small Corinthian columns on pedestals in the lower story and by the horizontal cornice of the great pediment that covers the whole front, and vertically by broad pilasters that run up through the pediment and break into its raking cornice. The pilasters are flanked by the detached Corinthian columns, which in the second story carry blind round arches. Below are three square-headed doors, and above, a round window between two niches—in the pediment the papal arms in a round panel. Under the single gabled roof are a nave, aisles, and transept of equal height, divided by clustered Doric columns carrying blocks of entablature, on which rest the round arches and pointed vaults. The east end is half an octagon, inclosing the two rectangular bays of the choir flanked by oblique chapels.

Palazzo Piccolomini, a Renaissance palace of great size built for Pius II., in 1462, by Bernardo Rossellino. The buildings surround three sides of a great courtyard with vaulted arcades, the fourth side being closed by a wall, on the outer face of which toward the gardens are three stories of arcades answering to the stories of the palace. The principal façades, strongly resembling that of the Palazzo Rucellai in Florence, have an order of flat engaged pilasters in each story, the lowest story with a simple square doorway breaking a range of small square windows on each face; the upper stories with a large two-light window in every interval, under a bearing arch of strongly marked voussoirs. The entablatures are small and thin, except that of the upper order, which makes a vigorous cornice. The interior court is very attractive, with a round-arched arcade on the first story, a second story with broad square windows, and an open loggia above—all the wall surfaces being elaborately painted in geometrical patterns.

Palazzo del Pretorio, the old Town-hall of Pienza, built about 1475, by order of Pius II., of the Piccolomini family, and doubtless by Rossellino. It has an interesting and graceful façade, about 60 ft. long, in two stories, the first an open loggia with three round arches springing from stout Ionic columns, the second with round-arched two-light windows, the arches springing from pilasters and divided by a slender column. Between the two stories is a broad frieze, and at the angle of the front rises a fine clock tower, of which the belfry stage has

in each face a single long round-arched opening. It is crowned by a bold arcaded corbel-table, above which is a smaller upper stage with a similar termination. The whole front, except the upper half of the tower, is covered with stucco and painted with elaborate decorations.

PIETAS JULIA. See *Pola*.

PINARA (Minara), Lycia, Asia Minor.

THEATRE, excavated in the side of a woody hill fronting the city. The interesting cavea is all but perfect, even to the sloping tops of the end walls of the wings. Several of the doorways of the back wall of the stage are standing. The exterior diameter is 173 ft. There are impressive remains of the city walls, in polygonal masonry of very large stones, with gates formed of three huge monoliths. Foundations of several buildings are in the same masonry. There is a very extensive and interesting necropolis; some of the rock-tombs, whose façades imitate wooden architecture, are richly sculptured.

PISA, Italy.

The BAPTISTERY is a circle of 99 ft. interior diameter, with an inner ring of twelve arches about 60 ft. in diameter, supported in the first story on eight columns with Corinthian capitals and four polygonal piers, and surrounded by a circular aisle about 16 ft. wide, in two stories, the lower covered by four-part vaulting, the upper by a barrel-vault. Over the upper arches rises a high twelve-sided pyramidal roof originally open to the sky, but now ending in a small hemispherical dome. In the centre of the floor stands a marble font, octagonal, 12 ft. in diameter, its sides panelled and sculptured with great delicacy, raised on three broad steps, of which the faces are decorated with a marble inlay. The hexagonal marble pulpit, justly esteemed as one of the most admirable works of early Italian art, is the work of Niccolo Pisano, and dates from 1260. It is supported on a group of columns, the shafts of various kinds of polished granite and marble, three of them resting on the backs of lions, bearing six round cusped arches with sculptured figures between and in the spandrels; and the faces of the hexagon above are filled with figure subjects in high relief of the greatest beauty. The exterior is of various ages and styles. It is in three stages, of which the first is a blind arcade, exactly answering to that of the cathedral, four of the arches filled with doorways with sculptured lintels and tympana, the others containing each a small round-headed window. The second and later stage is an arcaded gallery like those of the front of the cathedral, but the arches divided into pairs, each covered by a high crocketed gable enclosing a niche containing a statue or group. Between the gables, which are crowned by statues, tall pinnacles rise. Thus far the outline of the building is circular. The third stage is a polygon of twenty sides, the angles marked by pilasters rising into pinnacles, and each side occupied by a round-arched window with two pointed and cusped lights, covered by a high gable with crockets and finial. Above this is a dodecagonal dome of brick, which abuts against the inner pyramidal roof at three-quarters of its height, the remainder of the roof projecting and having the effect of a rude closed lantern. The angles are marked by ribs of marble ornamented by crockets. The baptistery was founded in 1153. Its architect was Dioti Salvi. The date and the name are both inscribed on the interior piers. The work being interrupted some years later by lack of funds, a general contribution was asked for from the citizens in 1164, when it is recorded that thirty-four thousand families gave each the sum of one soldo. A second inscription, dated 1278, records the rebuilding "de novo," and doubtless concerns the changes in the upper parts.

The CAMPANILE of the cathedral, com-

monly known as the Leaning Tower, is one of the richest and most striking of Italian bell-towers, a round tower 53 ft. in diameter and 180 ft. high. Its design is in exact harmony with that of the cathedral, consisting of a series of superimposed arcades, of which the first, about 35 ft. high, is composed of fifteen blind arches springing from engaged shafts with Corinthian capitals, the arch heads tilled, as in the cathedral and baptistery, with lozenge-shaped inlays of colored marbles. In one of the intervals is a square doorway with a high entablature, with its frieze decorated with a marble inlay, and covered by a high bearing-arch with reliefs. This arcade is surmounted by six open arcaded galleries exactly similar in design, each consisting of thirty narrow round arches carried on tall columns, with capitals of various kinds, whose abaci are stayed to the walls behind by flat lintels. The inner wall of the gallery appears uncovered in the eighth and final stage as a belfry, its diameter reduced to 38 ft., with six broad open arches, flanked by columns supporting an arched corbel-table under the cornice. A second inner wall is carried as high as the uppermost gallery, and between the outer and inner walls a stair of easy ascent gives access to all the stories of the tower. No floors remain below that of the belfry stage. The external walls and galleries throughout are built of white marble, the upper and lower stories being striped with black. The tower was begun in 1174, nearly sixty years after the completion of the cathedral, and about twenty years after the great tower of St. Mark's at Venice. Its architect was Bonanno, a Pisan, and already distinguished by earlier work in this town. It has been argued that the tower was intended to lean, a gratuitous affront to the builders which is set aside by examination either of the structure or its history. Great care appears to have been taken with the foundations, which rest on a multitude of piles, but the evi-



Fig. 145.—Pisa, Cathedral and Tower

dences of progressive and dangerous settlement appear at as early a stage as the first gallery, above which point there was a constant effort to correct the ever increasing inclination. After the completion of the third gallery the work appears to have been suspended for nearly sixty years. It was recommenced in 1234 under William of Innsbruck. The floor of the fourth gallery was then 11 in. out of level, in spite of corrections which had been already made below. These corrections were continued by making the columns on the south side of the fourth gallery about 5 in. longer than those on the north side, and the same method was adopted in the fifth and sixth galleries. At this point there was a second suspension of the work, and the belfry was added in 1350 by Thomas of Pisa. The present inclination is about 13 ft. from the vertical. (*See Fig. 145.*)

The CAMPO SANTO is properly to be regarded as the cloister of the cathedral. The Pisans, returning from the Holy Land after the second crusade under their bishop Lanfranchi, about 1188, brought with them a great quantity of earth from the Mount of Calvary, amounting as has been asserted to five hundred ship-loads—perhaps to a tenth of that. This was deposited in the neighborhood of the cathedral, where a cemetery was established. When the enclosure was begun is not clear, but an inscription records that in 1278 the work was carried on under Giovanni Pisano. It is a long quadrangle, measuring about 415 ft. in length and 138 in breadth. The enclosing wall, apparently older than the rest and nearly 30 ft. high, is faced on the side next the square with a blind arcade of tall round arches with simply decorated archivolts, springing from thin pilasters. It has three square doorways; over the central one is set a later Gothic shrine of delicate design, under which is a group of sculpture by Giovanni Pisano representing the Virgin and Child throned, with adoring figures. The quadrangle is lined with a continuous corridor about 35 ft. wide, presenting toward the court a series of sixty-two round arches of 12 ft. span, springing from rather slender square piers, the openings filled with delicate mullion shafts and tracery of a distinctly Gothic character, probably of the XV cent., said to have been once glazed with stained glass, but now quite open. The arcade rests on a pedestal course, and is crowned by a light decorated cornice. The material is white marble, the piers and arches striped with black and the whole composition is of extreme elegance. The decoration of the corridors is very interesting, the walls being covered with the original frescoes of Giotto, Andrea Orcagna, Benozzo Gozzoli, and other early painters of less distinction, many of them in fair preservation. The corridors are paved for the most part with the slabs of ancient tombs, and contain a great number of sarcophagi, statues, and fragments of sculpture from the Roman times down to the XIV century.

The CATHEDRAL, dedicated to Sta. Reparata, is one of the most important and interesting of Italian churches, whether from its dimensions, design, or decoration, and is typical of a limited but well-defined school of the Romanesque. Its plan is a Latin cross measuring about 320 ft. in length, by 115 ft. in breadth over the aisles. The transept is 230 ft. long and about 65 ft. broad over its aisles. The nave, about 45 ft. wide between the centres of its columns, has two aisles on each side, each in two stories and about 16 ft. wide, the inner aisles running singularly across the transept to the east wall of the church; the outer aisles turning and flanking the transept and choir. The nave arcades are of single shafts of polished granite and marbles with Corinthian capitals carrying rather narrow round arches. The second-story arcades have square piers over the columns below,

joined by round bearing-arches, each enclosing a pair of smaller round arches divided by a small column. Above is the clerestory wall of white marble with narrow courses of black, pierced by single



Fig. 146.—Pisa. Cathedral across Transept.

narrow arched windows which have no relation to the lower arches. The nave is covered by a flat wooden ceiling in deep panels, carved and gilded, the aisles by groined vaults, the inner and outer rows divided by arcades closer than those of the nave. The upper aisles are divided by square piers over each alternate column of the lower arcade, with groups of four arches between on slender columns. These upper aisles or galleries are of unusual height, and the outer one is lighted by windows in the aisle wall. The choir, which continues the nave and inner aisles two bays beyond the crossing, without interruption, ends in a round apse with a hemispherical vault covered with gold mosaics said to be from the hand of Cimabue and to date from 1302. Each wing of the transept also has an apse at the end. The crossing of nave and transept, forming an oblong of 40 ft. by 55 ft., is covered by a pointed dome elliptical in plan, and raised on a low drum dimly lighted by small square windows. The bearing-arches across the nave are pointed, to suit their narrow span. The windows of the church are generally filled with stained glass, much of it of ancient date. The interior was nearly destroyed by fire in 1596, and the whole church has been subjected to a very thorough restoration. The exterior, banded in white and black marble, is remarkable for the consistency of its design throughout, and for the delicacy and profuseness of its ornamental features. The front is in five stages following the outline of the nave and aisles. The first story is a high blind arcade of seven round arches springing from engaged columns, of which the two enclosing the central arch are covered with bas-reliefs. The arch heads are filled with marble inlays, alternately round and lozenge-shaped. Three of the arches enclose plain square doorways closed by bronze doors of the XVII cent., with fine bas-reliefs. All the other stories consist of open arcaded galleries of small round arches springing from shafts of various marbles, whose capitals are stayed by lintels to the wall behind, which is pierced with narrow round-arched windows sometimes single, but mostly grouped. Under the slopes of the gables the columns, diminishing, are dwarfed at the angles to

mere capitals. The upper two stories have only the breadth of the nave. The corners of the front and the apex of the low gable are crowned with statues. The spandrels of the arches and the small portion of wall above them are decorated with a delicate and beautiful inlay of colored marbles, and the string-courses dividing the stories as well as the cornice moulding are richly sculptured. The remainder of the exterior corresponds in design with the front. The blind arcade of the first story is continued quite round the church, but with pilasters for columns, and is repeated in the clerestory, the second story of the aisle-wall being simply divided by pilasters into panels with square-headed windows. The other windows are small and round headed. The eastern apse is in three stages, of which the two upper consist of open galleries, the first arched, the second square-headed. The high elliptical dome is surrounded at its base by a rather thin arcade of pointed, cusped, and gabled arches with high pinnacles between. This was added after the disastrous fire of 1596. The church was founded in 1063 in place of an older one, as a memorial of the gratitude of the Pisans for success in war against the Saracens in Italy. The original architect, it would appear from an inscription on his monument built into the façade, was one Busketus or Buschetto, apparently a Greek from Dulychium, though some antiquaries have claimed him for Italian. The church, however, was not finished till after his death and was dedicated in 1118. The nave was evidently lengthened after the original building. The façade underwent alteration, or had been left unfinished ; Niccolo Pisano is said to have worked upon it in the XIII century. The Pisans appear to have made pious use of the spoils of their enemies—the marbles, the shafts, and even the capitals, have been plundered from many sources. (*See Figs. 145, 146, 147.*)

Leaning Tower. See *Campanile.*

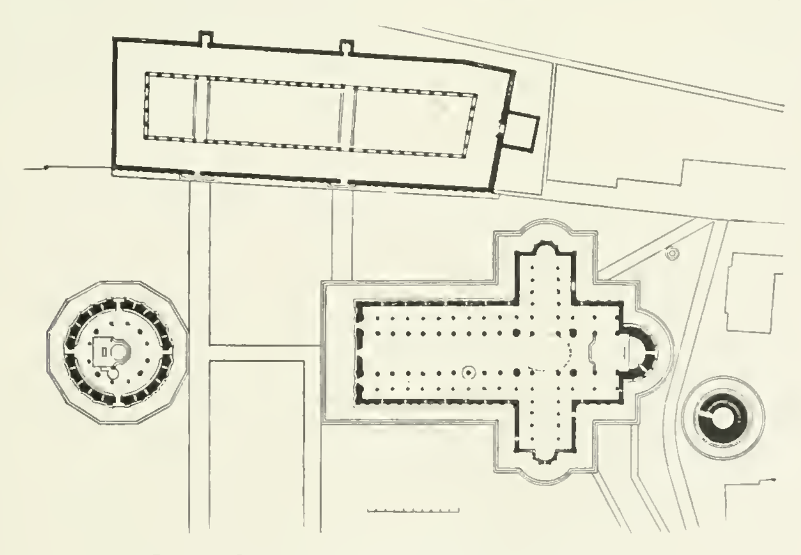


Fig. 147.—Pisa, Cathedral, Baptistry, Campanile and Campo Santo. Scale of 100 feet.

Palazzo Gambacorti, a characteristic example of the Italian domestic architecture of the XIV cent., covering an area about 80 ft. wide and 112 ft. deep, with a small court in the centre. Its principal

interior feature is its fine entrance-hall, an irregular quadrangle about 40 ft. by 80 ft., divided into two lines of vaulted bays by massive shafts with well-developed capitals. Its façade, about 80 ft. wide and 70 ft. high, is of simple design, in three high stories, a lower story of a door between four windows, with curiously abutted segment-arches: and two stories of round-arched windows, with pairs of pointed and cusped sub-arches on slender colonnettes.

STA. AGATA, a little octagonal brick chapel, Lombard in appearance, and perhaps of the XI century. It has one broad doorway with an altar opposite, and in six faces triple arched windows under round bearing-arches. Pilasters on the angles run up into an arched corbel-table below the high pyramidal roof.

S. CASCIANO, a small early Romanesque church, of the IX and XII cents., at some little distance from the town, measuring about 60 ft. in width and 130 ft. in length, with nave and aisles of eight bays, and a central apse. The church is incomplete, being finished only to the height of the nave arcades. The exterior follows as far as it goes the design of the cathedral, with a façade of five high blind arches on flat pilasters, with inlays round and lozenge-shaped in the arch-heads, and containing three doors. Above this story the central division of the front is just started, with angle pilasters and a two-light window in the middle. The flanks and apse are treated with blind arches divided by pilasters, and with narrow round-headed windows in every alternate bay. Apparently the three eastern bays and apse remain from the church of the IX cent., the church having been lengthened, and, as Mothes argues, the handsome old doorways inserted in the new front.

STA. CATERINA, a transitional church, showing the character of the Pisan Romanesque modified by Gothic influence. It is about 240 ft. long and 53 ft. broad, consisting of a wide nave, the eastern



Fig. 148 — Pisa, Sta. Caterina.

part bordered by one aisle of three oblong vaulted bays. It has a square chancel flanked by two square chapels on each side. The front, of white marble relieved by occasional narrow bands of black, and covered by a rather high gable, is in three stages, the first high, with three blind arches on engaged columns, the middle arch containing a plain square doorway, and reliefs in the tympanum. The second stage is a graceful arcaded gallery of nine pointed and cusped arches on slender columns, with trefoils in the spandrels, with three pointed windows behind it. The upper stage has a broad arch occupying the centre, over a round window set in a square of small panels containing heads, and pointed arcades each side graduated to the slopes of the gable. The first

story probably belongs to the XI cent., the upper part, or at least the arcading, to Niccolo Pisano, in 1262. (*See Fig. 148.*)

S. FRANCESCO is a plain brick XIII cent. church, attributed to Niccolo Pisano, long degraded to the uses of a military storehouse, but lately restored. It consists of a nave about 175 ft. long, covered by a continuous barrel-vault of nearly 60 ft. span and opening into a transept of equal width and about 140 ft. long, from which open eastward a square vaulted choir and three smaller chapels on each side. The vault of the choir is decorated with ancient frescoes, attributed to Taddeo Gaddi. In the angle of the north transept two boldly projecting corbels are made to sustain two sides of a high campanile, which above the roof has the features of a Lombard tower, in four stories with pilaster-strips at the angles terminating in arched corbel-tables, and triple windows in the belfry stage with bearing arches. Two fine cloisters attached to the church on the north, though modernized, are still elegant.

S. FREDIANO, one of the early minor churches of Pisa, of which the foundation is believed to date from the XI cent., but substantially rebuilt at a somewhat later period. Its plan is about 52 ft. wide and 125 ft. long, divided into nave and aisles by seven ancient columns on either side, doubtless taken from Roman buildings, and bearing round arches. The nave has a continuous high barrel-vault; the aisles are in square bays, each covered with a low interior dome. The nave terminates eastward in a square choir. Three square chapels opening from each aisle are later additions. The façade has two stories of wall-arcades after the characteristic Pisan manner, with lozenge-shaped panels in the arch heads, and three doorways. Over the nave is a bare gable, apparently raised above its original height when the nave was vaulted.

STA. MARIA DELLA SPINA, a familiar Gothic church on the bank of the Arno, remarkable for its small size and for its profuse and elaborate ornament. It is an irregular quadrilateral about 27 ft. by 52 ft. internally, consisting of a single hall with an open wooden roof, and with no architectural feature except a vaulted arcade of three round arches at the east end, carried on heavy columns. The elaborate exterior is banded in white and black marble. The low walls are faced with an arcade of segmental arches, which, on the exposed southern flank, are filled with the tracery of windows now mostly stopped up. Over them is a range of crocketed canopies like the stalls of a cathedral, fringing the eaves with pinnacles, and filled with statues, while above and between these rise at intervals square four-gabled shrines, likewise occupied by statues. The west end has twin arches containing two doors, and above them a singular composition of three crocketed gables, the higher middle one peeping out between the others. The whole is adorned with colonnettes, foiled circles, and panels, and ends in five four-gabled canopies with statues. The east end is of quite a different character, consisting of three high-pointed arched panels enclosing single narrow windows, and capped with high gables flanked by pinnacled shrines like the others. Three octagonal spires rise out of the roof here, corresponding to the three bays of the interior vaulted arcade. This portion, it is conjectured, was the whole of the original building, erected in or near 1220 by the Gualandi family with the aid of the Senate as a sort of shrine for the sailors of the town. The rest was added a century later by the city, and a thorn of the True Crown, brought home from the Holy Land by a Pisan merchant, was enshrined in it, whence the name of the church. It is believed that some of the sculpture is the work of Giovanni Pisano. Having suffered much from the overflow of the river, the church has lately been taken down, rebuilt, and raised.

S. Michele in Borgo, one of the most ancient of Pisan churches, believed to date from the beginning of the xi cent., but substantially rebuilt under Niccolo Pisano about 1230, except the upper part of the façade, which is seventy years later. It has a nave and aisle in seven bays, separated by columns, part of which are of red granite brought from the ruins of Roman and other temples, a shallow square projection at the east end for the altar, and a campanile added in 1625. The vaulted crypt belongs to the older church, and was decorated with frescoes, of which traces still remain. The front is similar in disposition to that of the cathedral—a high story of plain wall, of white marble relieved by narrow courses of black, and with three square doorways under bearing arches, the central one surmounted by a triple arched shrine enclosing statues. Above this story are three open galleries of pointed and cusped arches with much delicate and interesting detail.

S. Nicola, an ancient Romanesque church founded about 1000 a.d., which has undergone many partial destructions and rebuildings, leaving only fragments of the original round-arched façade. Its remarkable feature is its fine campanile, probably built by Niccolo Pisano about 1230, an octagonal tower some 24 ft. in diameter, of two high stages of equal height with angle pilasters joined at the top of the second stage by round arches, under which are panels alternately round and lozenge-shaped. Above this is a graceful open arcaded gallery of sixteen round arches supported on slender shafts. A smaller and later hexagonal belfry-stage rises above the gallery with angle pilaster-strips, an arched corbel-table, small round-arched windows and an octagonal stone roof. The tower contains a spiral staircase of admirable construction and of great beauty, enclosed between the outer wall and an ascending arcade. Vasari says that it was the model for Bramante's staircase in the Belvedere of the Vatican.

S. Paolo à Ripa d'Arno, a Romanesque church, said to have been founded by Charlemagne, but in its present form dating from the xi and xii centuries. Its plan is basilican or T-shaped, measuring about 135 ft. in length by 54 ft. in breadth, with long nave and aisles separated by granite columns with marble capitals supporting round arches and a clerestory, and a long transept with central dome and apse. The aisles are groin-vaulted in square bays; the nave and transept have a flat ceiling. The exterior is like the cathedral in miniature. The front is in four stages, the first of the xi cent. with some later changes, very high, with five blind arches on flat pilasters enclosing three doors and with marble inlay in the arch heads, round and lozenge-shaped. The upper and later stories consist of arcaded galleries, with slender shafts, some spiral and twisted. The wall-surface is of white marble varied by thin courses of black. The flanks are in blind arcades on pilasters.

S. Pietro à Grado, situated on the bank of the Arno, about four miles from the town, is one of the most venerable among the Pisan churches. Its name is due to a tradition that St. Peter landed in Etruria upon this spot and built here a church. It was originally a rectangle of about 90 ft. in breadth by 50 ft. in length, with its tribune on the west end toward the sea. This disposition was changed afterward, when the church was nearly trebled in length eastward, and three apses were built at the eastern terminations of the nave and aisles, the western apse being however retained so that the entrances are in the sides. The nave and aisles are in thirteen bays covered with open roofs and are separated by ancient columns, some of Greek marble and the remainder of granite, joined by round arches, above which rises the wall of the

clerestory pierced by narrow round-headed windows. Two heavy piers break the series and mark the junction of the old work and the new. The exterior differs from that of most of the Pisan churches in being essentially that of a Lombard basilica, the walls divided into bays by pilaster-strips terminating in arched corbel-tables, and otherwise of severe simplicity. A square, detached campanile of later date, but similar in style, stands near the N. E. angle of the church. It is in four stages, divided by thin string-courses with arched corbel-tables. The upper orbelfry stage, having a simple two-light window in each face, is Renaissance. There is controversy over the age of this church. Mothes and some others argue that the older parts are of the V cent., and the additions of the IX; De Fleury and most writers, including the latest, Dehio and von Bezold, that the oldest parts are of the IX or X cent. and the later of the XII.

S. SEPOLCRO is an interesting octagonal church of which the date is given as 1125. It is the work of Dioti Salvi, was built as a chapel attached to a house of the Knights Templar, in the form which they affected as that of the Holy Sepulchre, and has much the character of the Lombard baptisteries. A rhymed inscription tells the builder's name:

> Hujus operis fabricator
> Deus te Salvet nominatur.

A central octagon, about 28 ft. in diameter, composed of banded piers carrying high pointed arches, is surrounded by an aisle 20 ft. wide, in which are four plain square doorways under arches, and above in each side two small round-arched windows. Above the roof of the aisle the wall of the central octagon is carried up as a clerestory, pierced with a single small window in each side, and crowned by a sharp octagonal stone roof very slightly domed within. The walls are of stone and with little ornament. At the side of the church stands a square campanile in three stages—the first two with pilaster-strips terminating in arched corbel-tables, and with small and simple openings. The campanile is of stone to the height of the aisle walls of the church—above this point it is of brick, having evidently been rebuilt after partial destruction.

S. STEFANO AI CAVALIERI, one of the few Renaissance churches of Pisa, and next to the cathedral the largest church in the town, measuring about 200 ft. by 110 ft. It was begun from the designs of Vasari in 1562, but its plan, originally of great simplicity, consisting of a great nave 52 ft. wide and 135 ft. long, with a small square choir terminating in a round apse and flanked by two rectangular chapels, has been singularly changed by the addition, in 1682, of aisles connected with the nave only by two doorways on each side, and by chapels and connecting spaces on the east end completely enclosing the choir and apse. The nave is covered by a flat wooden ceiling deeply panelled and decorated in blue and gold, with paintings in the panels. A slender bell-tower rises from the south side of the choir. The exterior, of plain brick, was provided with its façade of marble from the designs of Buontalenti, or, as some say, of Giovanni de' Medici himself.

PISTOIA, Italy.

The BAPTISTERY, a beautiful early Gothic building built, it is said, by Cellino di Nese from the designs of Andrea Pisano, and finished about 1350. It is an octagon, 48 ft. in diameter inside, with an octagonal tribune opening from the side opposite the main entrance. The interior is simple, lighted by high narrow windows, and covered by an octagonal dome whose crown is 43 ft. above the floor. The exterior is of white marble with alternate narrow courses of black or dark green marble. It has projecting angle-pilasters ending in pinnacles, three round-arched doorways on three sides, and on four

others a single narrow pointed arched window. The principal doorway is capped by a high crocketed gable with pinnacles, enclosing a small wheel window. The upper part of the wall is encircled with a graceful blind arcade of cusped pointed arches with gables, separated by slender shafts. The wall is finished by a low open balustrade, above which is a low attic, also with angle pilasters ending in pinnacles, and an octagonal roof covered by an open lantern. Six steps surround the base of the building.

The CATHEDRAL OF STA. MARIA is a Lombard church of the Pisan type, without transept. Its plan is a rectangle about 86 ft. wide and 170 ft. long, with a vaulted nave and aisles of ten bays divided by round columns, carrying round arches, and a clerestory with square windows, probably modern. The choir, flanked by modern chapels, has one projecting bay terminating in a great apse, built at the end of the XVI century. The floor of the choir, raised above that of the nave and approached by steps extending the whole breadth of nave and aisles, covers a fine crypt, divided into three aisles of three vaulted bays each, the central aisle having a square projecting sanctuary to the east, and the side aisles each a lateral chapel. The exterior has a façade much like that of Pisa, but with the addition of a projecting open arcaded porch or narthex of seven round arches extending across its whole width, the central arch much stilted, and the others surmounted by a heavy square-panelled attic. The porch has a barrel-vault with bas-reliefs by Andrea della Robbia. Above it the façade, following the outline of the nave and aisles, consists of two stories of arcaded galleries and rows of graduated colonnettes under the gable and half-gables. The walls of the aisles are high, and are decorated with blind arcades with square windows above, and in the arch-heads lozenge-shaped inlays of colored marbles. Over the choir is a square lantern with small windows and a flat roof. At the north angle of the front rises a fine square campanile, of earlier date than the church and serving originally the purposes of military defence, but remodelled at the end of the XIII cent. by Giovanni da Pisa, when the three stories of arcaded galleries were added, making it one of the finest towers in Italy. The cathedral appears to have been built about 1160, replacing an earlier church of the VI century. It was probably partially rebuilt in 1272, by Niccolo Pisano.

MADONNA DEL UMILTÀ, a conspicuous and interesting Renaissance church begun in 1494 by Ventura Vitoni, but only completed in 1569. It is an octagon 90 ft. in diameter, faced with a transverse closed porch or narthex 35 ft. wide and 100 ft. long. The porch is covered by a barrel-vault divided into bays, of which the central bay rises into a high hemispherical dome coffered like the vault.

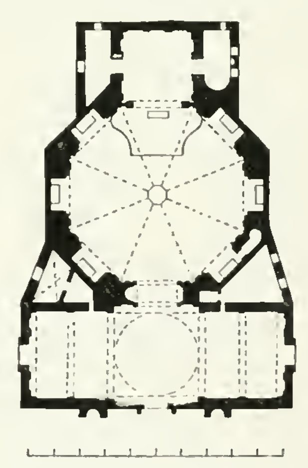


Fig. 149—Pistoia, Mad. del Umilta.
Scale of 100 feet.

The octagon is in four stories, of which all but the uppermost are encircled by Corinthian orders with coupled pilasters. The lower order, which lines the church throughout, is on high pedes-

tals. In the octagon its intervals enclose arches which in the axis of the church open into the narthex and into the opposite choir, a single, barrel-vaulted bay. In the other faces are altar niches. The second and third stories have a similar order of pilasters, with a round-arched window in each face, with rudimentary tracery. The fourth story is a high attic from which springs an octagonal dome and lantern. These, which were added by Vasari, are crude in design and out of keeping with the exterior. (*See Fig. 149.*)

The Ospedale del Ceppo, the great hospital of Pistoia, originally built in 1277, but restored later, consists of a square mass of buildings surrounding a court, and is notable chiefly for its long façade in two stories—the first a broad open vaulted arcade of graceful round arches springing from Corinthian columns, the second, rather low, with square windows with simple dressings over the arches. This front is remarkable for its frieze about 4 ft. high, separating the two stories, executed in 1528 by Giovanni della Robbia, in colored terra-cotta. It is divided into seven panels about 18 ft. long, corresponding to the arches below, and filled with subjects in high relief, representing the seven acts of mercy—the visitation of the sick, the burial of the dead, etc.—the figures colored as in a picture. The spandrels of the arcade are ornamented with roundels in terra-cotta, enclosing reliefs by various members of the Della Robbia family.

Palazzo Communale, the old Townhall, built between 1295 and 1350, stands on the great square north of the cathedral: a high rectangular building of four stories, of which the lowest has on the front an open arcade of five low pointed arches springing from single square piers. Above these is a range of five pointed and cusped two-light windows under low bearing arches, the central window having the balcony or *ringhiera* characteristic of the town-halls of North Italy, from which the magistrates addressed the people. The third story is a mezzanine with small square windows with trefoil head, and the fourth has five broad and fine three-light windows with pointed, cusped, and traceried heads, enclosed by strong bearing-arches at the spring of which a thin impost moulding runs across the front, which is finished by a flat projecting cornice. The interior contains many fine halls decorated with frescoes now much decayed, and a beautiful court, each side of which is supported on a single great round arch springing from angle piers with chamfered corners and carved capitals, the wall above pierced with grouped windows similar to those of the upper story of the façade.

Palazzo del Podestà, or, del Pretorio, the ancient palace of the magistrates, built in 1366, is a square mass of building adjacent to the Baptistery, with an imposing façade on the great square of three stories, the lowest a plain wall pierced with square openings and a simple round-arched doorway giving access to the courtyard. The other two stories have each a range of seven two-light pointed and cusped windows with pointed bearing arch. Simple string-courses divide the stories from each other, and a flat projecting cornice crowns the front. The court is small, and is remarkable for retaining its ancient stone bench of judgment, a plain seat of stone with a massive stone table in front of and below it, from which the sentences of the magistrates were delivered. The walls are covered with decaying frescoes.

S. Andrea, a flat-ceiled basilica whose age is disputed, but whose present aspect dates from the latter half of the XII century. It is about 130 ft. long and 50 ft. wide, with nave and aisles separated by five pairs of composite marble columns carrying round arches, the last two bays being marked off as a choir by square piers, and railed in. The clerestory is

extraordinarily high. The earlier front has been considerably overbuilt: the lower and older part has a quintuple arcade of slender columns containing three doorways of the Pisan type, banded archivolts, and lozenge panels. The upper part, covered with a dense geometric mosaic, and following the outline of the aisles and clerestory, is much changed by later alteration, especially by a clumsy Renaissance balustrade across the whole, and a circular window above, added by the Jesuits in 1640. On the lintel of the main door is a relief of the Last Judgment, signed by the sculptor Gruamons in 1166, and in the nave is a handsome hexagonal pulpit by Giovanni Pisano.

S. PAOLO is an old church which dates from 748, but was rebuilt in 1136. The interesting part is the front, which was remodelled after 1263, and finished by Giovanni Pisano and his pupil Jacopo di Matteo about 1320. It is banded in green and gray stone. Round arches remain below; above them is a graceful pointed arcade and balustrade, then a high-pitched crocketed gable enclosing a foiled wheel-window. The rich pointed main doorway, placarded upon the old round arch, is the work of Giovanni and Jacopo, the sculpture being signed by Jacopo.

PLAISANCE. See *Piacenza*.

PLATÆA, Bœotia, Greece.

HERÆUM, or TEMPLE OF HERA (Juno). This noted sanctuary is recognized with practical certainty in the remains of an important Doric temple found in 1891 by the American School at Athens. It was on a terrace about 120 ft. broad, rising some 6 ft. above the neighboring fields. It was 54 ft. 9 in. by 163 ft. 9 in., oriented east and west, hexastyle, peripteral, undoubtedly Doric, with pronaos and opisthodomos of two columns *in antis*, cella, and a rather small treasury behind. In plan it was somewhat archaic, being very long in proportion to its width, and having the pronaos and opisthodomos noticeably deep. The plan and the nature of the masonry seem to point to a date in the VI cent. B.C.; on the other hand, if this is in fact the Heræum, we know that it was built, or more probably merely rebuilt or adorned in its cella and superstructure by the Thebans, after their annihilation of Platæa in B.C. 427.

WALLS of the city, about two and a half miles in circuit. The remains are extensive, and can be assigned to five distinct periods, beginning with the polygonal style of an early type, and ending with rough masonry consisting of rubble and tiles laid in mortar—probably Byzantine or very late Roman. The main walls are about 10 ft. 10 in. thick, and in places are still over 12 ft. high and of excellent workmanship. They are strengthened in places with round rectangular towers, particularly in the two cross-walls, one within the other, which make the base of the triangle with its apex toward the south, representing the plan of the city.

POLA (anc. Pietas Julia), Istria.

AMPHITHEATRE, probably later than Augustus. It stands near the sea on the slope of a hill, so that the east side has only one story, while the west side has three stories. In plan it is elliptical; the greater axis is 452 ft., the lesser 369 ft.; the axes of the arena are 229 ft. and 147 ft. The full height of the wall is 97 ft.: the exterior is rusticated and divided into three stories, the lower ones consisting of Tuscan arcades of seventy-two arches each, in the second story without pedestals. The third story has square windows between pilasters. The exterior wall is broken by four rectangular towers, which are clearly parts of the original building. Their use is unknown; but it has been suggested that they were for staircases for women. The material is a hard white limestone, almost marble, laid in large blocks with metallic clamps and no mortar. The outer wall is nearly perfect, but the interior is ruinous, though the line

of the podium is still preserved, as well as traces of the stairs and vomitories. The arena could be flooded for the naumachy. The estimated capacity is twenty-two thousand spectators.

The CATHEDRAL was first built, according to an inscription still standing in its wall, in 857, under the Emperor Louis VIII., by a Bishop Handegis: but was rebuilt as it now appears in the XV cent., perhaps preserving the old plan. It is a three-aisled basilica with transept, with nave and aisles in nine bays of broad pointed arcades, and ending eastward in the straight wall which probably replaces an earlier apse. The choir, which extends into the nave, has been raised, lowering the triumphal arch, that may be a part of the original church, as may be also the columns, some of them bearing antique capitals under the stilt-blocks, and some Romanesque or Byzantine. The bell-tower is of the last century.

The PORTA ERCULEA, or Gate of Hercules, in the old city-wall, excavated since 1845, is named from the head and club of Hercules carved beside the keystone.

PORTA GEMINA, a double Roman gateway in the old wall, on the north side of the capitol, toward the amphitheatre. The two arches, side by side, are well proportioned; they open between three engaged unfluted Corinthian columns, which support an entablature consisting merely of frieze and cornice. The attic is gone.

TEMPLE OF DIANA (?), on the Forum (now the market-place). It was a nearly exact duplicate of the temple of Rome and Augustus, but was transformed into a palace for the Venetian governors, to which end it was furnished with a Venetian pointed façade. It serves now as the Palazzo Pubblico or town-hall. On the sides the original dispositions remain to some extent visible.

TEMPLE OF ROME AND AUGUSTUS. It remains in good preservation, and now serves as a museum. It is of the best period of Roman art, Corinthian (unfluted columns), tetrastyle (the portico includes six columns), prostyle, ground-plan 57 ft. by 26½ ft., on a high stereobate, reached by a flight of steps in front; the cella is 41½ ft. by 26 ft. outside. The height of the columns is 27½ ft., the total height 44 ft. The material is limestone, except the shafts of the columns, which are in fine white marble. The bases of the columns have no plinths. The foliage of the capitals, the frieze, and the modillions have a richness and a delicacy scarcely surpassed in the Augustan age.

THEATRE. The site is still visible in a semicircular hollow in the hill-side above the town. A great part of the stones were used in 1636 to build the citadel. It was finely constructed of free-stone; in plan semicircular, the greater diameter about 330 ft., that of the orchestra 117 ft. The cavea was divided by a precinction into two ranges, the lower of fourteen seats, the upper of eleven: above the upper range there was a gallery, and back of that a covered Corinthian portico. The stage-wall was adorned with two tiers of Corinthian columns.

The TRIUMPHAL ARCH is now called Porta Aurea or Porta Aurata, a name which belonged properly to the destroyed neighboring city gate. It is in fact a monument of the patrician family of the Sergii, and is gracefully proportioned, consisting of a single arch of 13½ ft. span and 24½ ft. high, between two pairs of Corinthian columns supporting a broken entablature. The frieze over the arch bears an inscription and sculptured chariots; over the entablature stand three pedestals which originally bore statues of the Sergii, and an inscribed attic. There are winged victories in the spandrels. The imposts of the arch are received upon pilasters. The material is a hard white limestone; the ground-plan 30 ft. by 7½ ft.; the total height 45½ ft.

POMPEII, Italy.

Amphitheatre, occupying the eastern extremity of the town. From the testimony of its masonry and of inscriptions, it was probably built early in the first cent. B.C., and may claim to be the oldest known Roman amphitheatre. It is in part excavated, so that the comparatively low exterior walls do not correspond with the height of the interior. The plan is the usual ellipse, the exterior axes being 334½ ft. and 426 ft., and those of the arena 121 ft. and 226 ft. The cavea had thirty-five tiers of seats, which could accommodate about twenty thousand people: they are divided horizontally by two precinctions. The lowest division comprised the seats of honor; in the middle of each of the long sides there is a large box in which there are only four steps instead of five, adapted to receive movable chairs. The middle division of the cavea is subdivided by twenty radiating stairways, and the highest division by forty. Above the highest division is a gallery divided into little boxes, to which there is access by a number of stairways; this was presumably for women. Behind this gallery there was another for the workmen who managed the *vela* or awnings. The arena has large arched entrances at the two ends. Access to the lowest and middle divisions of the cavea is by stairs and vomitoria from a vaulted corridor concentric with the arena; to the highest division by a wide exterior gallery, supported on arcades and provided with a number of stairs leading to the ground. Many of the seats remain in place; they have edge-mouldings, and depressions for the feet of the spectators of the next tier above, like those of the Small Theatre, but are formed of solid blocks of tufa. The arena is surrounded by a podium-wall about 7 ft. high, upon which was set a stout grating for the security of the spectators. This wall was ornamented with paintings of gladiatorial subjects. The arena itself has a simple earth floor, with none of the substructions which occur in many other amphitheatres.

Basilica, facing on the S.W. angle of the Forum. In plan it is approximately a rectangle of about 83 ft. by 220 ft., surrounded on all four sides by interior ranges of columns, and having at the western end a rectangular tribune projecting inward from the back wall. It opened on the portico of the Forum by five doorways separated by piers, and probably closed by wooden barriers and light gratings. Within these doorways was a narrow vestibule separated from the main body of the interior by a flight of five steps, two piers, and two central columns. The central space was surrounded by twelve large columns on each side, with two intervening at each end; these columns were very solidly built of specially shaped bricks, and coated with fine stucco. From the size of these columns it is clear that there can have been no second range above them. To the central columns corresponded engaged columns against the walls, which, as well as the columns of the vestibule and those in the line of the front of the tribune, are of much smaller size, indicating that there was here a superposed order. Many fragments, in tufa, of this order have been found, with Ionic capitals. They show that the upper story consisted in great part of colonnades, left open for the lighting of the building. There is indication that there were no floored galleries over the aisles. The tribune was raised about 6 ft.; it was entered by doors in the walls which closed it at the sides. In front it had six columns, whose intercolumniations show marks of gratings. The tribune was richly ornamented with moulded work in stucco. Beneath it there is a vaulted chamber of problematical use; it does not appear to have been a prison. The building had a timber roof, the roof of the central space being probably sepa-

rate from that of the aisles. The wall-decoration belongs to the first Pompeiian style, imitating encrustation in colored marbles. In date the building is pre-Roman, falling in the II century B.C. It was damaged by the earthquake of 63 A.D., and a more or less complete restoration, including the decoration of the tribune with marble, was in progress when the great eruption came.

BUILDING OF EUMACHIA. An inscription shows that it was dedicated by the priestess Eumachia in honor of Concordia Augusta and Pietas, evidently with reference to Livia and Tiberius. It consists of a large rectangle, enclosing an open double-porticoed court, and preceded at the end toward the Forum by a broad portico of seventeen columns, which was unfinished at the time of the final destruction. Around the two sides and the back is carried a spacious covered passage. Against the back wall is a large semicircular apse with two piers in the line of the wall, flanked by two small apses. The wall-painting is in the third Pompeian decorative style, with a black dado and foliage-ornament, the panels above being alternately red and yellow, with small landscapes. The building dates from about 50 A.D.; it was much damaged by the great earthquake, and restoration and further enrichment with marble encrustation, etc., were in progress at the time of the final disaster.

CURIA ISIACA. See *Palæstra*.

Three CURIÆ or Tribunals, as commonly called, occupying the southern end of the Forum. The three buildings are of moderate size and similar plan, and of construction subsequent to the earthquake of 63 A.D., though it is evident that they replaced older public buildings. The plan of all includes a rectangular hall with an apse or tribune at the end. They had a common façade, which formed an architectural pendant to the Temple of Jupiter at the opposite end of the Forum. The middle building, more ornate, was adorned inside with columns against the walls, perhaps in a double tier, and its tribune was occupied by an enriched edicule presumably for a statue of the emperor. The porticoes before this building and the eastern one could be closed by gratings. All these were paved and encrusted with marble, and had timber roofs. It is probable that the middle one was the senate-house of the Decurions, that the eastern one, which like the first could be securely closed by gratings against the invasion of a crowd, was the court of the Duumviri, and that the western one, which was open to the public, was the office of the Ædiles, among whose functions was the police of the market.

The FORUM is an open square, about 450 ft. north and south and a fourth as wide from east to west, which was lined with open porticoes. The northerly is occupied by the Temple of Jupiter, and the southerly abuts against the three Curiæ. The west side is bordered by the Basilica and the Temple of Apollo; the east by the Macellum or Market, the Senaculum, the Temple of the Genius of Augustus, the Building of Eumachia, and the so-called School. The porticoes were in course of reconstruction at the time of the disaster of 79 A.D. The older structure remained on the south side of the Forum, and on the southern part of the east side; its columns were in tufa coated with stucco, of so-called Greek style, with an entablature supported by wooden beams, the whole being of rough execution. It was built by the quæstor Vibius Popidius. When the city was overwhelmed, this portico had been demolished on the entire west side, and in part rebuilt. The new structure was in limestone, of fair construction, though of inelegant design, and had two stories. The architraves of the lower range of columns were built up in flat arches. The lower order was Doric, the upper Ionic. (*See Fig. 150.*)

The Forum Triangulare is an open space at the south end of the town, nearly triangular in shape, and bordered by open colonnades. It is adjoined on the N. E. by the Great Theatre, and contains the Greek Temple.



Fig 150.—Pompeii, Forum.

The Gladiators' Barracks, sometimes called a market, consists of a colonnaded court about 148 ft. by 187 ft. surrounded by a double tier of small cells, seventy-one in all, opening on the porticoes below and on a covered wooden gallery above. These were evidently the sleeping-quarters of the gladiators. The ranges of cells are interrupted at intervals by chambers appropriated to other uses, including stairways, a wide stair in the N. W. corner descending to the Forum Triangulare, a chapel with trophies on the south side, a prison, some better rooms for officers, and what seems to have been a dining-room on the east side communicating with a large kitchen. In the N. E. angle is a graceful Ionic portico of three columns with a guard-chamber on one side. The columns of this court are Doric, about 12 ft. high, well formed and of good execution. They date from the tufa period, and appear to be contemporaneous with the Great Theatre. The cells are evidently later than the porticoes, and it is probable that the original building was to shelter the spectators in the theatre in the event of a storm, and was later altered to lodge the gladiators. It is estimated that it could accommodate one hundred and forty-two, exclusive of officers—not an unreasonable number, since there is record of as many as forty pairs fighting together at Pompeii in a single day, beside combats with wild beasts.

House of the Centenary. This important dwelling is of the type developed from two houses side by side, one atrium and the rooms around it being appropriated especially to purposes of display, and the other reserved for household needs. In this example the left-hand atrium is the finer. Behind it lies a beautiful square peristyle with twenty-two Doric columns.

two-storied on the side toward the front. On the peristyle open several summer and winter dining-rooms, exedras, and at the back a large, open, well-ventilated sitting-room, behind which is a very small garden. The service atrium has a garden of moderate size on its right hand, and stairs to the upper story. A long passage leads back to a kitchen, stable, cellar, and an unusually spacious and complete private bath, with *frigidarium* or cold bath, *apodyterium* or dressing-room, *tepidarium* or warm-air chamber, and *caldarium* or warm bath. This portion of the house contains also a secluded and splendidly painted *triclinium* or dining-room, which has an independent entrance on a side street, evidently designed for somewhat riotous festivities. The house appears to be of Roman republican date, and its mural painting is in part apparently contemporaneous with the house and of the so-called candelabrum style, and in part of the latest Pompeian style. The decoration of the secluded triclinium, consisting of brilliantly colored groups of figures on dark grounds, mostly black, is among the most remarkable in Pompeii.

The House of Cornelius Rufus is noteworthy for the remains of its handsome atrium, with a bordered impluvium in the middle, by which still stand the marble standards of a table, gracefully carved with lions, that have been often imitated by modern designers. A terminal figure of Rufus with its inscription gives its name to the house: and behind the tablinum and triclinium are seen the eighteen Doric columns of the elegant peristyle. (*See Fig. 151.*)



Fig. 151.—Pompeii, House of Cornelius Rufus.

The House of the Dioscuri (Castor and Pollux), or of the Quæstor, is for the beauty of its decoration and the complexity of its details one of the most important dwellings of Pompeii. It is formed of three houses side by side thrown into one, those on the sides retaining practically their original arrangement, and that in the middle devoted entirely to a handsome peristyle with central tank and garden, a spacious *œcus* or state chamber with walls encrusted with marble, and two small bedrooms. The house on the left presents a twelve-columned Corinthian atrium, surrounded by the usual rooms, including two dining-rooms. At the rear is a peristyle and garden, with free-standing columns, however, on only one side: on this open the kitchen and the winter dining-room, as well as the œcus of the middle house. The figure painting, of mythological subjects, is among the most interesting of Pompeii. That of the tablinum and of the triclinium next it, on blue grounds, is especially noteworthy. The decoration of the middle house is also excellent, though later in style. The right-hand house is much plainer, and doubtless was chiefly occupied by the slaves of the household. The house was named House of the Quæstor from the presence in the atrium of the left-hand

house of three metal-plated and lined money-chests; but as there were no quæstors in Pompeii at the time of its destruction, the name House of the Dioscuri, from the subject of one of the wall-paintings, is now preferred.

The HOUSE OF THE FAUN, or of the GREAT MOSAIC, formerly called House of Goethe, from the poet's son, is one of the most stately of Pompeian residences. It occupies the sites of two older houses in width, and presumably of two in depth also. The front part preserves much of the original arrangement of two houses side by side, with two entrances and two atria. Behind one of the atria there is a *tablinum* or drawing-room between two dining-rooms (*triclinia*), and behind the other are the fauces, giving access to the kitchen, baths, and other domestic services. The fine peristyle, about 80 ft. by 65 ft., had twenty-eight Ionic columns in tufa coated with thin, hard, white stucco, and was surmounted by a gallery in the second story. At the back of the peristyle lies an exedra, with two Corinthian columns *in antis* and open at the back toward the great garden except for a low division-wall. In this exedra was found the remarkable mosaic of the Battle of Alexander against Darius, now in the National Museum at Naples, which gives one of its names to the house. The garden, which occupies the entire sites of two houses, is surrounded by a portico of fifty-six Doric columns. The decoration of this house is remarkable for the profusion of mosaics; they begin in the very entrance-passage, which is the most ornate in Pompeii. There is also much relief-ornament in stucco, and painting in imitation of colored marbles, but comparatively little pictorial wall-painting. (*See Fig. 152.*)



Fig. 152.—Pompeii, House of the Faun.

HOUSE OF GOETHE. See *House of the Faun.*

HOUSE OF HOLCONIUS RUFUS, a dwelling of moderate size but interesting from the regularity of its plan and for its details. The street fronts as usual are bordered by shops, several of which consist of two, three, or even more rooms. The entrance-passage leads to a somewhat small atrium of the so-called Tuscan type without columns, upon which open the usual rooms. On one side of the handsome *tablinum* or drawing-room at the back of the atrium was the stair to the upper story, on the other the passage (*fauces*) to the rear part of the house. The peristyle, somewhat irregular, was colonnaded in the second story as well as below. The large dining-room is enclosed and is placed on one side conveniently near the kitchen. At the back of the peristyle is a fine exedra, or summer dining-room, which is flanked by two smaller rooms. The wall-paintings include Bacchic and musical subjects, and some of the rooms are paved with marble.

HOUSE OF MELEAGER, a stately dwelling in which, as in the house of Sallust, the private apartments surrounding the peristyle are placed beside the public portion of the house about the atrium, instead of in the normal position behind it. The house has no shops connected with

it. The atrium is Tuscan, without columns; the rooms opening on it are fewer and simpler in plan than usual. The peristyle, entered from the atrium by an ornamented doorway of four leaves, is very large, and has a wide portico supported by twenty-four columns which are smooth and colored red below, and fluted and white above, with fanciful capitals. In the court was a garden surrounding a piscina of complicated design. At the back lies an open or summer dining-room, along whose rear and side walls are ranged twelve columns which seem to have supported a gallery. On either side of this room there is a spacious exedra, and in the left hand corner in a projecting ell is a large closed dining-room, beside which is the commodious bedroom of the master of the house. Some rooms of the upper story remain in good condition. The decoration of this house is throughout very rich. The floors are of mosaic or of *opus signinum* with inlaid patterns. The wall painting, in the late Roman styles, is lavish; its subjects include Meleager and Atalanta (in the entrance-passage), from which the house is named, Paris and Helen, Ganymede and the Eagle, Silenus and the Infant Bacchus, many scenes in which figure cupids, nymphs, and satyrs, and fantastic architectural devices.

House of Pansa, one of the largest and most stately dwellings in Pompeii, and of very regular plan, so that it has

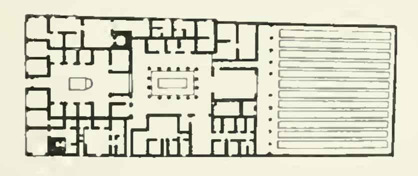


Fig. 153.—Pompeii, House of Pansa.

been selected more than once for reproduction, as in Paris, and at Saratoga, New York. It occupies the entire space between four streets. It dates from the old or tufa period, and shows modifications of Roman date, the chief of which are the numerous shops on the street-fronts. Some of these form small houses in themselves, with many rooms, and among them is a complete bakery. The entrance is preceded by a small vestibule. The atrium is of the Tuscan type, without columns about the central piscina; it has at the side small bedrooms and two *alæ* or wings, the latter with fine mosaic pavement, and at the back a *tablinum* or drawing-room, on one side of which is the passage (*fauces*) to the private part of the house, and to the spacious peristyle, which has sixteen columns about the central court with its piscina, and was surrounded by a gallery in the second story. On one side of the peristyle lies the dining-room (*triclinium*). On the other side is a range of bedrooms, outside of which, on the side street, are placed the kitchen and a stable and carriage-house. At the back of the peristyle is the chief room in the house, the *œcus*, so called. The garden, arranged in long parallel beds, appears to have been a vegetable-garden. The mural decoration of this fine house has, unfortunately, for the most part perished. Several of the bedrooms of the second story remain in part; in them the excavators found a quantity of feminine ornaments and toilet accessories. (*See Fig. 153.*)

House of Popidius Secundus, formerly called Casa del Citarista. This is among the most considerable of Pompeian residences, occupying the sites of at least three earlier houses. The front portion, with the two handsome peristyles behind it, dates from the tufa period; the part behind these peristyles is of Roman date, containing a large and finely decorated *œcus* or state-chamber, two dining-rooms, and a very complete stable and carriage-house; so also is the addition on the north, itself practically a complete house with independent entrance. Connected with the older part of the house there is a

bath of two rooms. The wall-painting is excellent; the best subjects have been removed to the National Museum at Naples.

House of Sallust, a dwelling of the oldest or tufa period, to which, under the Empire, were added on one side the later Roman luxuries of a peristyle with summer triclinium and separate kitchen. The chief street-front is occupied by shops, the first of which is a complete bakery of four rooms, with mills and oven and a stair to living-rooms above. Others of the shops seem to have been cook-shops and to have been conducted by the slaves of the occupant of the house. The atrium is a handsome Tuscan hall without columns; on it open the usual rooms with a fine *tablinum* or drawing-room at the back. The decoration is of the earliest style, imitating encrustation in colored marbles. At the back is a portico which turns the angle of the house, and within which lies the winter dining-room. Outside this is a narrow garden, occupied chiefly by a sanded path, with boxes for plants on each side. The back wall is painted with trees and shrubs to give the illusion of space. In one corner of the garden is built the summer dining-room. From the right of the atrium a passage leads to the Roman addition. The peristyle here encloses a flower-garden on three sides, and has at the back two richly ornamented bedrooms. A balcony, upon which the rooms of the upper story opened, extended over two sides of the peristyle. The mural paintings in this part of the house, in the two latest Roman styles of Pompeii, present a sharp contrast with the severe and stately decoration of the older part of the house. Among them are some of the best examples of Pompeian figure-painting, the principal subjects being Paris and Helen, Mars and Venus, Europa and the Bull, and the Punishment of Actæon. The last painting is of the unusual size of 10 ft. by 13 ft.

House of the Tragic Poet, a dwelling which, though only of moderate size, is remarkable for the abundance and excellent taste of its decoration. It is the home of Glaucus in Bulwer's "Last Days of Pompeii." The street-entrance opens on a somewhat long passage flanked by two shops and leading to the atrium. This has on both sides bedrooms and offices, and two stairways to the upper story. At the back of the atrium is a handsome *tablinum* or drawing-room, beside which is the passage (*fauces*) leading back to the peristyle, surrounded on three sides by columns. Among the works of art found in this house are the familiar *Cave Canem* mosaic from the entrance-passage, and the mural paintings of the Surrender of Briseis by Achilles to Agamemnon's Herald, the Marriage of Jupiter and Juno, and the Sacrifice of Iphigenia.

Market or Macellum, often called the Pantheon. In plan it is approximately rectangular, the façade on the Forum adorned with a portico of slender Ionic marble columns in two stories, at the back of which was a range of small booths. The chief entrance is double, the two doorways being separated by a niche flanked by Corinthian columns. There is evidence that the large open area now forming most of the interior was surrounded by a wide portico; this left open a central rectangle, in which appears a dodecagonal foundation, around which stand twelve square bases of masonry. These have been taken for altars to the Twelve Gods, or bases for their statues, but it is more likely that they served to receive the supports of a light dome covering a fountain. On the north side a range of booths faces outwardly on a side street, and on the south side a similar range of smaller booths, each about 9 ft. by 10 ft., fronts on the court. The back is occupied by three large compartments. That in the middle, plainly a temple, has a pronaos in which five steps rise to the

cella, which has a base for the cult-statue at the back, and was apparently dedicated to the cult of Augustus. The left-hand compartment, toward the north, is also a place of worship. The right-hand compartment, toward the south, is surrounded at the sides and back by a stone bench standing free from the wall and inclined toward the front, as Italian stone market-tables are made to this day. This cannot be more appropriately explained than as a place for the display of meat and fish for sale, and this identification is strengthened by the presence of conveniences for the free use of water and for easy drainage. The walls of the booths and chambers are painted in the latest Pompeian style with conventionalized architecture and in bands and panels. In the shrine of Augustus the chief panels bear Greek mythological subjects, such as Io and Argus, and Phrixus on the Ram, and the panels above these display fish, flesh, and fowl of all kinds, subjects appropriate to a market, which recur in the other chambers. The date assigned to this structure from the character of the architecture and decoration and the arrangement of the shrine of Augustus, falls between 14 and 23 A.D.

PALÆSTRA, behind the Great Theatre, between the Forum Triangulare and the Temple of Isis. It has been called Curia Isiaca, or place of initiation to the Mysteries of Isis; but for this there is no evidence. The interior is surrounded on three sides by a portico of slender Doric columns of tufa. It is plain that the portico originally extended all round, and that in a restoration of the temple of Isis, probably after the earthquake of 63 A.D., a considerable piece was taken from the palæstra and added to the precincts of the temple. Inside it was found, during the excavation of 1797, the famous Doryphoros copied from Polycletus, now in the National Museum at Naples. In date, the palæstra is pre-Roman.

PANTHEON. See *Market*.

The SCHOOL, so-called, can hardly have been a school, though no better identification has been made out. The manifest dispositions for the entrance of a file of persons by the side door and their exit by a door on the Forum are suitable for voting. It forms a large quadrangle of somewhat irregular form. In the middle of the south side is a large raised rectangular tribune or platform. On the side toward the Forum was a portico of eight columns, irregularly spaced. That the building was of importance is shown by the fact that it was generously encrusted with marble. The original construction was pre-Roman, but important alterations were made at two periods, the first probably Republican, and the second after the earthquake of 63 A.D.

The SENACULUM or HOUSE OF THE DECURIONS, so-called, a large structure on the east side of the Forum, occupies a rectangular area 60 ft. by 65 ft., with a large semicircular apse at the back, and a wide rectangular recess on each side, separated from the central area by two columns. The apse is ornamented with columns which stand free along its walls, and has in the middle a large edicule flanked by columns, and with a two-tiered pedestal for statues. There are eight smaller niches for statues in the walls of the rectangular area, which has a rich pavement of marble of different colors, and an altar in the middle. The bases of eight columns stand in front of the area on the edge of the Forum, but there is no indication of any architectural separation between the area and the public space in front. This is a strong argument against the identification as the Senaculum, for the sittings of the Decurions could not have been conducted entirely in public. The apse and the side recesses were evidently covered, but it is doubtful whether the central area was ever roofed. It may have had a roof of timber. The archi-

tecture and decoration fix the date before 50 A.D.

Temple (Greek) on the Forum Triangulare, long called the Temple of Hercules, but now thought to have been dedicated to Apollo or Artemis. Little remains but the massive stereobate of gray tufa, traces of the cella, and a number of architectural fragments. It was probably destroyed before the empire, and replaced by a later shrine. The original temple appears to have dated from the VI cent. B.C., and to have resembled Temple C. at Selinus. The stereobate of five steps measures at the top step 56½ ft. by 89 ft. The temple was hexastyle, with eleven columns on the flanks, and the cella was very small in proportion. Its side walls projected in two antæ in the line of the third lateral column on each side. The columns were 3 ft. 10 in. in diameter at the base, and 3 ft. 1 in. at the neck; the echinus is heavy and projects strongly. The rough tufa of the shafts, which had eighteen channels, was coated with fine stucco. The capitals are of finer stone. The gutter was ornamented with terra-cotta lion-heads of archaic type.

Temple of Apollo, long known as the Temple of Venus, on the west side of the Forum, a large peripteral structure facing the south, in a peribolos surrounded by a colonnade. The identification rests upon an inscription on the cella floor, and is strengthened by the presence of an omphalos, and of a painted tripod on a pilaster of the court. The temple, which faces the south, was hexastyle, Corinthian, with ten columns on the flanks, standing on a high basement with a central flight of steps. The cella was proportionately very small with a deep portico before it. A great part of the floor was covered with a very fine geometrical mosaic with a meander border, formed of marbles of different colors. Before the entrance steps stands the sacrificial altar. The structure dates from the tufa period, but was restored in the last days of Pompeii. The portico of the peribolos was originally of two stories; the columns of the lower range were Ionic, but were transformed into Corinthian with stucco, and the entablature was Doric. The lower parts of the columns were colored yellow, the upper parts were left of the white of their stucco coating. On the side toward the Forum the wall of the peribolos was represented by piers, the spaces between which were left open for passage. At the north end behind the portico there was a series of chambers, no doubt connected with the service of the temple, with wall paintings; among these one representing Bacchus and Silenus is of excellent execution.

Temple of the Fortune of Augustus, dedicated, as is shown by an inscription, by the Duumvir Marcus Tullius. The rectangular cella walls are almost complete, with a prostyle, tetrastyle Corinthian portico. The whole stands on a high basement with steps between piers in front, which, like that of the Temple of Jupiter, rises from a platform communicating with the street by a small flight of steps on each side. Between the flights of steps stands the altar, and the lower platform was no doubt enclosed by a grating. At the back of the cella, in an apsidal recess, was an edicule with two Corinthian columns for the statue of Fortune. Two rectangular niches on each side of the interior of the cella were probably intended for statues of the emperor and his family. Though not of great size, this temple was richly adorned.

The Temple of the Genius of Augustus, on the east side of the Forum, has been called Temple of Mercury and Temple of Quirinus. It was presumably founded very soon after the cult of the emperor was officially established in 7 B.C. On the side toward the Forum is a wall, originally encrusted with marble, whose door opens on a covered vestibule with four columns toward the court. In

the middle of the court stands a richly sculptured altar of marble; the front of the die bears a sacrificial scene. At the back is the temple proper, on a high basement. The small cella, whose walls are nearly entire, was preceded by a tetrastyle Corinthian portico, to which steps ascend from behind, on each side of the walls of the cella. The walls of the court were ornamented with niches and other architectural adornment, and several rooms, no doubt for the convenience of the priests and attendants, were connected with it.

Temple of Hercules. See *Temple (Greek)*.

Temple of Isis, identified by an inscription which also shows, together with the character of the architecture, that it was rebuilt after the earthquake of 63 A.D. The tufa stylobate of the portico, however, belongs to the older building, and seems to go back to the II century B.C. The temple consists of a rectangular enclosure surrounded by a colonnaded gallery with a central court, in which stands the temple proper. This has a cella broader than long, preceded by a tetrastyle portico two intercolumniations deep. The central intercolumniation is the widest, and from it descends a flight of steps. On each side of the cella a rectangular niche for a votive statue projects laterally beyond the anta, and a similar niche is placed against the back wall. In one corner of the court stands a curious edicule with a pediment and an arched doorway opening between Corinthian pilasters. From the back of the interior a stair descends to a subterranean chamber. This edicule is called a Purgatorium, or place of purification. Its outer wall is ornamented with figure-reliefs in stucco. Several rooms of considerable size open on the enclosing court. (*See Fig. 154.*)

Temple of Jupiter, at the N. W. end of the Forum. Its tufa masonry assigns it to the late Oscan period, about the end of the II century B.C. There is evidence that it was injured in the great earthquake 63 A.D., the colored wall-decoration and thick stucco of the columns show several restorations, one of which was in progress at the time of the final disaster in 79 A.D. The temple was hexastyle, Corinthian, on a high basement, with a deep portico before the cella. The platform in front was divided into two levels. The lower, reached by steps at each end, appears to have formed a platform for orators, the upper had the usual broad flight of steps between two piers. The columns of the portico were about 39 ft. high. The interior of the cella was divided into a broad nave and two very narrow aisles by two ranges of eight Ionic columns between antæ. These columns were about 15 ft. high, and above them were ranges of Corinthian columns 13 ft. high supporting the timber ceiling. The back of the nave

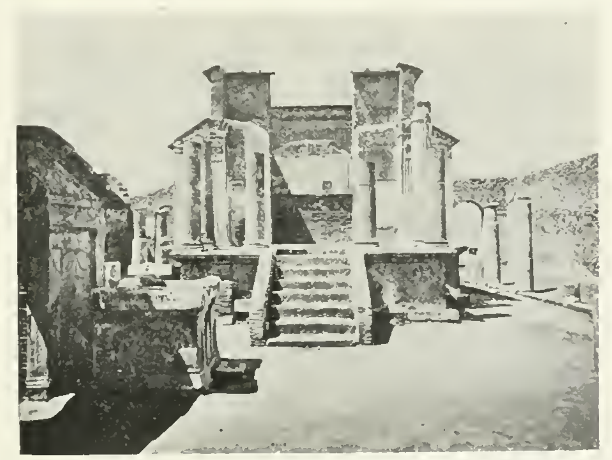


Fig. 154.—Pompeii, Temple of Isis.

is occupied by three vaulted cells behind an order of pilasters, forming together a pedestal for the statue of the divinity, or divinities; for it is not unlikely that the temple was dedicated to a triad, like the

Capitoline temple at Rome. The ascription of the temple to Jupiter rests upon an inscription to Jupiter Optimus Maximus and a head of Jupiter, both found in the cella. Almost the whole basement is occupied by a vaulted chamber, lighted by narrow openings in the floor of the cella, and entered by a door in one side. This may have been a treasury, or a storehouse for accessories of the cult. The platform measures 55½ ft. by 121 ft. The basement with its steps, and the lower portions of the columns of the portico and of the cella walls, remain in position.

The Temple of Jupiter, Juno, and Minerva has been called a Temple of Neptune. It is established within the walls of a former private house, and its construction is plausibly assigned to the colony established by Sulla: it would consequently date from after 80 B.C. Within the door opening on the street was a covered vestibule with two columns on the side toward the temple court. This court is about 18 ft. deep, and in it stands a rectangular altar of excellent workmanship, surrounded with a cornice and a Doric frieze, and with graceful volutes at the angles. Immediately behind the altar nine steps, occupying the entire width of the court, ascend to the temple platform. The cella was preceded by a tetrastyle portico, two intercolumniations deep. At the back of the cella is a pedestal for the cult-statues, and here were found at the time of the excavation, in 1766, statues of over life-size in terra-cotta of Jupiter and Juno, and a bust of Minerva. A Corinthian anta-capital is preserved; it has between the volutes a bearded face.

Temple of Mercury. See *Temple of the Genius of Augustus*.

Temple of Neptune. See *Temple of Jupiter, Juno, and Minerva*.

Temple of Venus. See *Temple of Apollo*.

Great Theatre, lying on the east side of the Forum Triangulare, and facing south. In plan it combines elements that are plainly Greek, such as the excess of the arc of the auditorium over a semicircle, with dispositions usually looked upon as characteristically Roman. It is shown by its masonry and by an inscription to be entirely of pre-Roman date, but to have been rebuilt and altered in some minor respects by two wealthy Roman office-holders, two or three years before the Christian era. The cavea is in part set into a hillside, in part built up on vaulted substructions. A broad vault, utilized as a passage for ingress and egress, encircles the back of the auditorium beneath the highest division of four seats. A precinction here opens on the passage by vomitoria opposite the six radial stairways which intersect the cavea, and has outside communication. A second precinction girdles the cavea beneath the main division of seats, and above the four wide low steps next the orchestra, which served, like the orchestra itself, for the placing of chairs of honor. Communication with the exterior was provided from this precinction also, and from the orchestra. Above the highest division of seats was a raised gallery, supported on arcades surrounding the exterior wall, for the attendants who managed the *velum* or awning. The interior of the cavea was cased in marble; the section of the seats is a plain rectangle, without mouldings or sunk space for the feet of the spectators of the next tier above. The stage was raised only about 3 ft.; its front wall has two flights of steps descending to the orchestra, and three niches in which sat officers of the peace, facing the audience. The back wall of the stage displays three doors which open in recesses, the central one round-headed, and the others rectangular. The recesses are flanked by niches. The floor of the stage was of wood. Beneath it can be traced some arrangements for handling the curtain, and others which are not yet fully explained. Behind was a long, narrow hall. The chief dimen-

sions are: interior diameter of cavea, 190 ft.; distance from proscenium wall to back of cavea, 118 ft.; size of stage 66 ft. by 21½ ft.

Small THEATRE, east of the Great Theatre. It is of Roman date, and was a covered theatre or odeum, intended for musical performances and minor plays. For convenience of roofing, the normal theatrical plan was modified, and the entire building included in rectangular walls, which cut off the normal pointed wings of the cavea on each side. The triangular spaces enclosed behind the cavea were utilized for stairways. The cavea presents only two parts—a lower one of four wide lava steps for the chairs of honor, above which is a precinction, and an upper one consisting of five wedge-shaped divisions for ordinary spectators. The chief entrances were by vaulted side passages between the stage and the cavea. Over these passages there were tribunes of honor, which could be entered only from the stage. The seats of the upper part of the cavea were covered with slabs of tufa, moulded on the upper front edge, and with a sunken space at the back for the feet of those in the seat next above. Besides the three principal doors, the stage had two small ones near the ends, which were probably separated by partitions from the remainder of the stage. The back wall of the stage has no architectural adornment, but is painted in the second style of Pompeian mural decoration. The hall behind the stage has four doors in the back and one at each end; that on the west was preceded by a porch of three columns, and that on the east opened on a large portico on the Strada Stabiana. The chief dimensions are: interior width of cavea, 92 ft.; depth of cavea from proscenium-wall, 72 ft.; size of stage, without the end chambers, 59 ft. by 16½ ft. It is estimated that the cavea could accommodate fifteen hundred people.

Central THERMÆ, unfinished at the time of the disaster of 79 A.D., and so of especial interest as presenting the precise arrangements in favor at that time. They were surrounded on at least two sides with shops opening outwardly, and had a large interior court or palæstra on the west side. This court was to be surrounded with porticoes on the north, west, and south sides, and to have a large open swimming-tank on the east side against the bath-buildings. There were public entrances on the three colonnaded sides. The baths consisted of only a single series of chambers, there being no duplication for separate women's baths. There was a large vestibule before the *apodyterium* or dressing-room, in which was placed a piscina for the cold bath. From one end of the *tepidarium* or warm chamber, opened a domed *laconicum* or hot-air bath. The large *caldarium* or hot bath had a piscina at each end, and a basin for washing in a niche on one side. All the chambers except the laconicum were lighted by windows opening on the court. The vaults were ornamented with somewhat rough stucco reliefs; the decoration of the plainly tiled lower walls and cemented floors was evidently incomplete. Tepidarium, laconicum, and caldarium have their floors elevated on small brick piers, and tile pipes in the walls for the circulation of heated air. The disposition of the heating furnaces is as usual, but on account of the size of the chambers and the presence of the laconicum, two independent and widely separated furnaces were introduced.

Great THERMÆ, discovered in 1857, consisting of three divisions—the baths for men, the baths for women, and a series of private or single baths. The buildings were surrounded on two sides by shops, and disposed about a fine central colonnaded court 69 ft. by 108 ft., which served, as inscriptions show, as a palæstra. The west side, with no portico, has a paved alley extending its entire length, on which

a heavy stone ball, still in its place, was rolled for exercise. Behind this is a rectangular swimming-bath flanked by wash-rooms and a dressing-room. Their walls are adorned outside with beautiful reliefs in stucco, representing fanciful architecture diversified with figures, white on red and blue ground, and encrusted below with marble. Seven doorways gave entrance to the thermæ. The men's baths, like those of the Small Thermæ, include *apodyterium* or dressing-room, circular domed *frigidarium* or cold bath, *tepidarium* or warmed hall, and *caldarium* or hot bath. Both tepidarium and caldarium have their floors raised for the passage beneath them of heated air, and also hot-air spaces in the walls; these dispositions were introduced as alterations under the Romans, for the buildings themselves are pre-Roman. The tepidarium presents an abnormal arrangement in the presence at one end of a rectangular piscina, heated from without by a special furnace. The caldarium, almost an exact counterpart of that in the Small Thermæ, is a long vaulted hall, with a piscina for the hot bath at one end, and a circular basin for washing in an apse at the other. Light came in by windows and openings in the vaulting. The vaults and the upper parts of the end walls of the apodyterium and the tepidarium were decorated with excellent reliefs in stucco, representing ornamented panels, fantastic architecture, and figures, among them cupids sporting with dolphins, and undraped nymphs. The side-walls of the apodyterium present a series of rectangular niches for the clothes of the bathers. The women's baths adjoin those of the men, from which they are wholly separated; between them are placed the heating furnaces, with their battery of boilers. The women's baths include a spacious apodyterium, in which is a rectangular piscina for cold bathing, and a tepidarium and caldarium similarly arranged to those of the men's baths, but smaller and less richly ornamented. The private baths, which are placed beyond the northern end of the central court, consist of a series of small rooms, each with a piscina or bath-tub. This division is practically without decoration.

Small THERMÆ, occupying an entire block of buildings north of the Forum. A large portion of the street fronts was occupied by shops of one or more rooms, and while there is plain evidence of the existence of an upper story, it is not clear for what this was utilized. The thermæ consisted of two distinct parts, baths for men and for women, between which was a common system of furnaces and boilers, serving for both. The men's baths were much the larger and more richly ornamented, and have three entrances and an open colonnaded court of some size, with which was connected a waiting-room. The apodyterium measures about 22 ft. by 37½ ft.; it was vaulted and provided with stone benches along the sides, and was lighted by square windows of good size in the upper part of the ends, which were closed by heavy panes of glass set in bronze frames swung on side-pivots. The frigidarium is circular and domed, with a central piscina; its walls display large semicircular niches and are painted with green plants. Beneath the springing of the dome it is encircled by a frieze of stucco reliefs representing races between cupids, on a red ground. The tepidarium is a fine rectangular room with barrel-vault; the cornice from which the vault springs rests on a series of vigorous but somewhat heavy Atlantes in terra-cotta. The vault was very richly adorned with stucco reliefs, forming a broad band of foliage-scrolls below, and panels of different forms containing figures above. In this room were found three benches of bronze and a large bronze charcoal-stove. The caldarium is a vaulted hall about 18 ft. by 55 ft., with a shallow circular marble basin for washing in an apse at one end, and a

rectangular tank for bathing at the other. The walls are ornamented with pilasters, and the vault, which is pierced in several places for light and air, with large vertical flutes. The walls are surrounded by air-spaces, and the tiled floor is raised upon low brick piers, the spaces so formed communicating with the adjoining furnace. The women's baths have only three apartments, an apodyterium, a tepidarium, and a caldarium, with a small vestibule apparently for waiting attendants, beside the single entrance ; there is no ornament of consequence, and the only notable difference in arrangement from the men's baths is the fact that the tepidarium, as well as the caldarium, has its floor raised for the introduction beneath it of hot air. This is due plainly to a later alteration. The arrangements for the water and heat supply are practically complete, and are of much interest. These thermæ are about contemporaneous with the Small Theatre.

Villa of Diomedes, on the Street of Tombs. This was one of the largest and richest of Pompeian abodes, and consisted of several stories, though these were only in small part superposed, but in large measure adjoined one another, being built on ground of different levels. The street cuts the front of the villa at a sharp angle, and makes the vestibule at the entrance triangular. The atrium is replaced by a handsome peristyle of fourteen Doric columns of brick, upon which open most of the rooms usually found about an atrium. On one side of the peristyle projects the finest bedroom surviving in Pompeii ; it is semicircular, with three large windows looking out on the former garden, an alcove, a standing washstand, and an antechamber. Between the peristyle and the street are a kitchen and a complete bath of four chambers. At the back of this portion of the house, behind the tablinum and fauces, is a spacious *œcus* or state-chamber with a very large window toward the west, disclosing the entire Bay of Naples. At the back, and extending under the rear gallery and the œcus of the story first described, is a range of soberly but tastefully adorned rooms, which open on the pillared gallery which surrounds a garden over 100 ft. square. Beneath the whole of this gallery extends a cellar, in which were found many skeletons of the inhabitants of the house. The gallery had an upper story, which was connected with that which existed over the first part of the house. The wall painting is in excellent taste ; it includes a number of examples of the floating figure type, on plain grounds.

PONTE LUCANO, near Tivoli, Italy.

Tomb of the Plautia Family, of the same character as that of Cæcilia Metella outside of Rome, and one of the best preserved of ancient funeral monuments. It is a huge cylindrical tower standing on a quadrangular base of masonry ; the original domical top is replaced by the battlements of a mediæval fortification. The rectangular entrance portico, with Ionic semi-columns, faces Tivoli ; in it are two inscriptions of M. Plautius Silvanus, who was consul in 2 B.C.

PONTE DI NONA, near Rome, Italy.

Roman Viaduct, an impressive work which carries the Via Prænestina on a level over a deep ravine. It is very massively built of large rectangular blocks of the peperino called *lapis gabinus*, in horizontal courses, and consists of seven high arches. Even the old pavement remains. The style of the masonry is similar to that of the Tabularium at Rome, and the date is probably the end of the II cent. B.C., or the beginning of the first.

PORT APLOTHEKA (believed to be anc. Loryma), Caria, Asia Minor.

The Walls, at the S.W. entrance of the port, form an important example of Hellenic military architecture. The space enclosed is long and narrow, and the fine walls, of large squared blocks of limestone,

are standing nearly to their full height. On each long side there are about six square towers, and at each end a massive circular tower. There are three narrow gates in the long south wall.

PORTO (anc. Portus Trajani). Italy.

The remains of antiquity are of much interest, particularly those of the great Ports of Trajan and of Claudius, the latter of which was built on account of the sanding up of the port at Ostia. The inner port, that of Trajan, hexagonal, was surrounded with huge arcaded magazines and offices, built of brick. On the western side of the inner port is the Port of Claudius, whose moles are still recognizable. It is about 4,300 ft. long and 3,200 ft. wide. Between the two harbors lay an imperial palace, with a theatre, thermæ, and a forum. The ancient gate of the inner circuit of fortifications, is a double arch, now called Arco di Nostra Donna. There are remains of a temple of Bacchus, of another temple with a vaulted cella still possessing niches and relief-ornament in stucco, of a portico of Valentinian III., etc.

POSEIDONIA. See *Pæstum*.

POSILIPO. See *Pausilypum*, under *Naples*.

POZZUOLI (anc. Puteoli), Italy.

The AMPHITHEATRE was renewed in the time of Hadrian. It is probable that the older structure stood on the same site. The remains are in fair preservation, though injured by earthquakes and spoliation. The plan is elliptical; the greater axis, 482 ft., the lesser, 384 ft. The length of the arena is 236 ft. The outer wall consists of three superimposed tiers of arcades, the lowest of large blocks of masonry, the others of reticulated brickwork. The monument was surrounded by an exterior portico. The main entrances at the end of the greater axis were approached by a triple range of arcaded porticoes, encrusted with marble. The arena is paved with brick, carried on vaults, and is full of square holes for trap-doors. Excavations have brought to light subterranean passages, canals, drains, and dens for wild beasts beneath the podium. The arena could be flooded to a depth of about 3 ft. The seats are in four ranges, their computed capacity about thirty-two thousand spectators. The imperial seats were adorned with Corinthian columns of black marble.

MOLE, restored by Antoninus Pius, and thus anterior to the II century A.D. It is mentioned by Seneca and Suetonius, and is built on the so-called Greek principle; that is, it consists of a series of massive piers of masonry connected by arches, the object being to break the force of the waves while opposing to them as little resistance as possible. Thirteen piers now project above the water, and three can be distinguished beneath it. It is believed that there were originally twenty-five piers and twenty-four arches, with a lighthouse at the end. The piers are built of brick faced with stone, all firmly bedded in pozzolana cement. Not far from the mole, columns and other remains of two temples are visible in the water; these are called the temples of Neptune and of the Nymphs.

TEMPLE OF AUGUSTUS, built, according to an inscription, by Calpurnius. Its remains are now incorporated with the cathedral of S. Procolo, which occupies its site. The chief of them is a portico of six lofty Corinthian columns with their architrave bearing an inscription, at a small side door of the church.

TEMPLE OF SERAPIS, attributed to the reign of Domitian, but restored under Trajan, Marcus Aurelius, and Septimius Severus. It was injured in 1198, and partly buried by an eruption of the Solfatara, and was excavated in 1750. The temple proper was circular, with a peristyle of sixteen Corinthian columns on a podium 3 ft. high. The columns have been removed from their pedestals and are now in the

palace of Caserta, and the National Museum at Naples. The temple was enclosed by a court, 140 ft. by 122 ft., lined with a portico of forty-eight columns. Behind the portico were thirty-two chambers, above which there was a second story. In the middle of the N. E. side there is a projecting portico, richly decorated with six Corinthian columns of cipollino 40¼ ft. high, and two pilasters. Three of these columns are still standing. The chief entrance in the S. W. side, toward the sea, had a central passage and two side passages decorated with pilasters. After the eruption the coast sank, and at about one-third of their height the standing columns mark the extent of the sinking by their girdle of borings made by marine animals. After some centuries the ground rose again, particularly at the outbreak of Monte Nuovo in 1530.

Roman THEATRE. The remains, which cover a large area, now overgrown with trees and vines, lie on the hillside above the Amphitheatre. The chief portions visible are the two tiers of arches of the exterior wall of the cavea, some vaulted passages of the substructions of the seats, some of the entrances, and a portico.

PRÆNESTE. See *Palestrina*.

PRATO, Italy.

The CATHEDRAL, a Romanesque church showing signs of Gothic influence, particularly on the exterior, which is otherwise remarkable among Italian churches as expressing clearly the interior arrangement. The façade has three divisions, corresponding closely in outline to the nave and aisles. The centre has a beautiful pointed arched doorway with splayed jambs, composed with octagonal piers and slender round columns; the door square-headed with a tympanum bearing figures in relief by Luca della Robbia. This door is the only opening in the front. Above it the wall is banded with white and dark marble, the central portion terminating in the low gable of the nave roof, the side divi-



Fig 155 —Prato, Cathedral.

sions in the half gables of the lower aisle roofs. The cornices on front and sides have an arched corbel-table. The transept, high and square, has hipped roofs. The side walls of the aisles have blank arcades of high round arches on columns, with small circular windows in the heads of some of the arches. The walls of the clerestory are of alternate courses of white and dark green marble, and pierced with five single pointed windows. A beautiful square campanile stands at the angle of the south transept with a doorway at its base, and five stories of grouped arches, growing larger and more decorated as they ascend, and terminating in a fine belfry with three-light openings under a pointed arch. On the south angle of the front of the church is a picturesque and beautiful pulpit corbelled out from the angle pier, with a circular balcony divided into panels and sculptured by Donatello, and covered by a circular canopy. The interior shows a nave and aisles of four bays, with stilted round arches on rather low black marble columns with foliated capitals, and a clerestory with single-light pointed windows, the wall in stripes of white and dark marble. The transept arms have each two bays with four-part vaulting. The east wall has five arches opening into the choir and into four chapels square in plan, decorated with frescoes by Filippo Lippi, which are considered the finest of his works. The round pulpit is a remarkable work by Mino da Fiesole, resting on sphinxes and bearing panels filled with figure sculpture in relief. The interior of the church dates principally from the XII cent., but a portion, including the east end, belongs to the next century. The exterior was completed about 1450. (*See Fig. 155.*)

MADONNA DELLE CARCERI, an early Renaissance church finished in 1491, from the designs of Giuliano di Sangallo. Its plan is a Greek cross measuring 84 ft. in each direction, the arms covered by barrel-vaults springing from the entablature of a rich order of Corinthian pilasters which surrounds the whole interior, and the centre by a hemispherical dome on a low interior drum, lighted by small round windows between the dividing ribs and crowned with a small high lantern. The exterior is very simple and is in two stages, the lower faced with white and dark green marble and bearing an order of thin Doric pilasters without an entablature, the upper unfinished, of brick, with a low gable over each arm of the cross. The central dome is masked by a round drum, in which appear the round windows of the dome under a low conical roof through which the lantern pierces.

PRIENE, Caria, Asia Minor.

The TEMPLE OF ATHENA POLIAS (Pallas, Guardian of the City), built by the architect Pytheos in 340 B.C., stood on a platform below the acropolis. The platform was longest from east to west, and was enclosed by a wall embellished by porticoes, with handsome entrance-propylæa on the east. The temple was Ionic, hexastyle, peripteral, with eleven columns on the flanks. The bases of the columns were formed of two blocks resting on a plinth ; the shafts were fluted, formed of several drums, with no necking ; the capitals had graceful volutes and cushion. The architrave was in three planes ; the frieze was one-third lower than the architrave, and plain ; the cornice had dentils and lion-heads, and the cyma was decorated with anthemia. The material is marble. The propylæa of the peribolos were of somewhat later date than the temple. In plan they resembled the propylæa of the Athenian acropolis, and had on each face a portico of four Ionic columns, strongly tapering, with twenty-four flutes. Their bases rested on square plinths, and their height was about nine and one-third diameters. The interior had two ranges of square pillars resting, like the columns, on plinths ; the shafts taper, and the Ionic anta-capitals are of novel design, with a

female figure between volutes on the face and affronted griffins on the sides. The walls had pilasters both inside and outside. On each side of the main structure was a tetrastyle portico whose columns also rested on square plinths. The material was marble.

PUTEOLI. See *Pozzuoli.*

PYDNAI, Lycia, Asia Minor.

Lycian Fortress to the west of the mouth of the Xanthus, in excellent preservation. It is a polygon, about 500 ft. in diameter, with walls of well-jointed polygonal masonry, about 3 ft. thick. There are eleven rectangular projecting towers, unevenly spaced, with doors opening on the interior of the enclosure, and large windows and loopholes. The towers are of two stories, the upper one communicating with the top of the walls. Some still rise to a height of 30 ft. The existing battlements, built with mortar, on parts of the wall, are no doubt later. The fortress has but two entrances. Narrow steep flights of steps give access to the top of the walls.

RABBATH AMMON, Palestine. See *Amman.*

RAGUSA, Dalmatia.

Dominican Convent, a xiv cent. Gothic building, the church having been opened in 1306 and the convent finished about 1348. In the xv cent. a round-arched campanile was built. The church consists of a single large nave with polygonal eastern end across which, defining the choir, is a triple arch. There are also two side chapels and a fine round-arched south doorway with an ogee crocketed hood-mould and jamb-shafts. Across the west end of the nave is a Renaissance triple arcade which formerly stood on the north side and once contained three altars. The cloister has an arcade of large round arches supported on piers and enclosing triple sub-arches, with tracery of quatrefoils and interlacing circles, supported on round colonnettes with carved Gothic capitals.

The Franciscan Convent was founded in 1317, but in 1667 an earthquake and fire destroyed much of the church. The interesting features of the church are a fine doorway of late Italian Gothic, and the campanile, which is the uninjured original, and is a work of mixed pointed and round-arched architecture. The beautiful cloister also remains unharmed from the xiv century. Each bay consists of six round arches supported on coupled octagonal columns, and enclosed by a great round arch with its tympanum pierced by a quatrefoiled circle. The capitals are well carved, in luxuriant Romanesque style, with foliage, animals, and grotesques. Three arches in the east wall open into the chapter-house. On a pier in the court is preserved the name of the architect, Master Mydra, an Albanian.

Rector's Palace. A Ragusan municipal building of the xv cent., showing in its architecture a mingling of the Gothic and Renaissance. It is two stories high. In the first the centre of the façade is occupied by an arcade of six round arches opening into a loggia, at each end of which is a solid wing containing a ground floor and mezzanine. In the arcade the columns belong to 1455, while the arches with Renaissance mouldings and sculpture were built during the restoration after a fire in 1462. The second story of the front, above a string course, has eight Gothic windows in two lights divided by shafts with tracery above. In the back wall of the loggia is a richly sculptured pointed doorway, leading to a square court enclosed by two stories of vaulted galleries with arcades, the upper of which has two arches to one of the lower, on coupled columns. The loggia walls are pierced by pointed doors and windows. The interior has been modernized, and has little of interest except two pictures, one of which is a lunette in one of the anterooms and represents the baptism of Christ. The Gothic palace was begun in 1435 by

Onofrio Giordani of La Cava to replace the older building destroyed in that year, but in 1462 this second palace was partially burned, and rebuilt by Michelozzo Michelozzi and Giorgio Orsini.

The SPONZA, or custom-house and mint of Ragusa, was begun in the XIV cent., and added to at different periods during the next two centuries. It is a three-storied building enclosing an oblong court surrounded by an arcade and cloisters of two stories. Across the front is a fine XVI cent. Renaissance loggia, and the second story is pierced by windows of rich Venetian Gothic which date from the XV century. Of this period also are the arcades in the court, of which the lower tier are round, and supported on octagonal columns with very plain capitals; at the ends the arches of the second story are round: on the long sides they are pointed, a pair to each one in the arcade beneath, separated by round columns with foliated capitals. The third story is of the XVI century.

RAVELLO, Italy.

CASA RUFFOLO, a palatial country-house dating from the second half of the XIII cent., of irregular plan, covering an area about 130 ft. square, with various outbuildings. The entrance to the grounds is through a tower about 25 ft. square and 65 ft. high, with flat walls of red and black stone pierced by the great pointed entrance-arches, encircled at the summit by a band of small interlacing pointed arches of terra-cotta. The interior of the tower is an interesting example of the influence of Saracenic art. It is ceiled by a slightly pointed dome whose crown is 40 ft. above the pavement, its surface broken up by vertical channelling. The wall below is decorated at two levels with blind arcades of high interlacing pointed arches, springing from small coupled columns. The most important feature of the interior of the palace is an enclosed court 50 ft. by 62 ft., whose decoration is unparalleled in Italy. It is surrounded on three sides by two stories of vaulted arcades, the first of simple high pointed arches somewhat stilted, three on each side, supported on marble columns with simple leafed capitals; the second with slender coupled columns supporting a wild mass of interlacing tracery, mostly spread over the surface of the wall. Above this is a blind arcade of very small, coupled twisted columns of red terra-cotta, with tracery similar in character to that below. Over this again, on a light string-course, are three semicircular blind arches on each side, each enclosing a round opening. The various apartments of the palace were richly decorated, with marble columns and ornaments in terra-cotta.

The CATHEDRAL, dedicated to SS. Maria and Pantaleone, is an XI cent. cruciform church, much modernized, but retaining in a considerable degree its ancient character. The nave has, or had, nine round arches on each side, somewhat stilted and divided into three bays by oblong piers alternating with pairs of columns, the latter of red marble, with capitals of various character. The piers are faced with pilasters which carry the ribs of the later vaulting. Under the transept is a crypt with seven aisles of three groined bays each. The church contains a fine pulpit dating from 1272, of white marble with mosaic decoration, supported on six spiral columns standing on the backs of lions, and approached by a staircase enclosed in a marble fence also decorated with a mosaic inlay. Of the façade only the lower portion belongs to the original building. This contains three fine Lombard doorways; the middle one is closed by the finest bronze doors in South Italy. They are divided into fifty-four panels enriched with figure-subjects in high relief, and bear the date 1179. The fine tower attached to the wall of the south transept is in four stages; the lowest finishes with an arched corbel-table, the second and

third have a facing of red and yellow tiles, with two-light windows under a bearing-arch; the fourth has a blind arcade of interlacing arches in black and yellow terra-cotta, on black columns. Ravello was raised to a bishop's seat in 1087, and the cathedral, begun a few years later, was consecrated early in the XII century.

S. AGOSTINO. A small Lombard church of the XI cent., with nave and aisles of three bays, the former divided by two transverse arches and covered by a slightly pointed barrel-vault, the latter groined in square bays. The three round arches on each side the nave are supported on granite columns with composite capitals and square stilt-blocks. The transept, which is the choir, and projects very slightly beyond the aisle wall, is shut off from nave and aisles by a solid wall pierced only by a doorway in the axis of the nave. An elliptical dome covers the centre. The original façade has disappeared.

STA. MARIA DEL GRADILLO, a small Romanesque church of Sicilian aspect, dating from the middle of the XII cent., divided by four round arches on each side springing from square piers. The nave and aisles, which are covered by a single roof, and ceiled with wood, abut upon a transept which projects slightly and is divided into three square bays, of which the central one is covered by a low dome on a high round drum, the two side bays being groined. Each bay has a flat apse in the east wall, and the floor of the central bay, which forms the choir, is raised by several steps above the nave. At the S. W. corner of the church is a small square tower, from the western side of which opens a small apsidal chapel. The front has a single gable covering the whole breadth, the side walls have a series of pointed discharging arches under which are small single round-headed windows. The transept ends show the intersecting vaults unroofed. Over the crossing rises the drum with its low dome—the walls covered with intersecting arches. The square tower has two stories of two-light windows under round bearing-arches, separated by a frieze of an inlay of white marble on a black ground between bands of tiles of various colors, and a later round belfry at top.

RAVENNA, Italy.

ARIAN BAPTISTERY. See *Sta. Maria in Cosmedin.*

The BAPTISTERY now called S. Giovanni in Fonte, and known as the Orthodox Baptistery, was attached to the old Cathedral, which has been rebuilt, and was presumably contemporary with it. It is a simple octagonal building, about 40 ft. in external diameter, the walls of rough brick, quite plain in the lower half, with a single round-arched window in each face. The upper portion is divided by pilaster-strips ending in an arched corbel-table into two panels in each face, and covered by a low octagonal roof hiding the dome within. The interior is a single undivided hall with two stories of round arches, one to each face of the octagon, springing from detached shafts in the angles. These columns were doubtless gathered from older buildings, as they are of various sizes, and fitted with capitals of various form, Corinthian in the lower story, Ionic in the upper, all carrying stilt-blocks. In the lower story two of the eight sides are occupied by semicircular niches, of which one contains an altar. In the upper story each face is divided by columns into three sub-arches, the middle one much the largest, containing a broad round-arched window. The great arches of the second story cut up into the hemispherical dome, which springs from their columns, and which, as well as all the walls above the lower columns, is covered with the admirable and well-preserved mosaics of the V century. Those of the dome are in two zones, encircling the central picture at the crown of the vault, which represents the baptism of Jesus in the Jordan. The

zone next to the central picture is occupied by full-length standing figures of the apostles, wearing crowns; while the lower



Fig. 156.—Ravenna Baptistery

zone and the wall within the second story arches are covered with extremely varied designs, arranged in panels, with figures, and scroll-work, and architectural compositions. In the angles over the lower columns are figures of the prophets in white drapery relieved on a gold ground. The centre of the floor is occupied by an octagonal font about 9 ft. in diameter, formerly used for baptism by immersion. It is of white marble with panels of porphyry, and on one side of it is a semicircular ambo for the officiating priest. The floor of the building is now nearly 10 ft. below the level of the ground outside. This baptistery, first built by Ursus at the end of the IV cent., was partially destroyed by war, and repaired in 425–30 under the empress Galla Placidia. It is thus the oldest of all the existing buildings at Ravenna. (*See Fig. 156.*)

The CATHEDRAL (Ecclesia Ursiana), was the oldest of the Christian buildings of Ravenna, having been built by Ursus, archbishop, as early as the IV century. It was a five-aisled basilica, but was entirely rebuilt during the XVIII cent. as a Renaissance church, with nave and single aisles, transept, and choir, with a polygonal eastern apse, and a circular lantern over the crossing; the latter having a high tambour divided by pilasters with pedimented windows between, and a high dome surmounted by a cupola. The ancient round campanile is all which remains of the old basilica, and this has been partially rebuilt by the addition of a belfry with triple-arched openings under bearing arches; the façade is altogether uninteresting. The interior has some fine pictures by Guido and his pupils, and by other masters of his school. Portions of the marble pulpit of the old basilica, and fragments of its ancient doors of vine-wood, are still preserved in the modern church; and in the sacristy is the ivory chair or throne of the bishop, Maximianus, a work of the VI cent., and one of the most exquisite remains of early Christian art which have come down to us. Its front has five panels containing full-length figures of saints, and surrounded by bas-reliefs of foliage and animals of great delicacy and beauty, and executed with admirable skill.

The MAUSOLEUM OF GALLA PLACIDIA, now the church of SS. Nazaro e Celso, is a small monument, but one of extreme interest. The building is of the simplest design and construction. Its plan is nearly a Greek cross, each wing scarcely more than 12 ft. wide inside, the extreme internal dimensions being about 33 ft. wide and 40 ft. long. The exterior presents a low square central tower of rude brickwork, against the four faces of which abut the

four arms of the cross, with low walls, broken by blind arches and terminating each in a gable end. The interior has an entrance vestibule occupying most of the western arm of the cross, in which are two sarcophagi, which have been said to contain the bodies of the tutors of Valentinian and Honoria, the children of the empress. The other three arms open from the central square by round arches, and are covered by barrel-vaults. Above the arches rises the central tower, pierced by a single square window on each side and covered by a low dome with pendentives; perhaps the earliest authentic instance in Europe of a dome so built over a square base. All the walls, as high as the spring of the arches, are faced with slabs of marble. Above this point, the whole interior is covered with the original mosaics of the V cent., of which some are of great beauty and richness. Those of the walls of the tower and on the end walls of the arms of the cross are of figure-subjects, while those of the vaults are for the most part in geometrical patterns with gold and colors. The eastern recess contains the large sarcophagus in which the body of the empress was deposited in a sitting posture. It is of marble, rude in design and execution, but was originally adorned with plates of silver and other ornaments, which have now disappeared. In the transept are the sarcophagi of Constantius the husband, and Honorius the brother, of the empress. These are said to be the only tombs of imperial Romans which remain in their original positions. Under the dome is an altar of alabaster, of simple design, adorned with early bas-reliefs, supposed to be of the VI century. The mausoleum was built by the empress herself, between 425 and her death in 450.

ORTHODOX BAPTISTERY. See *Baptistery*.

S. APOLLINARE IN CLASSE. Of the remarkable group of nearly contemporary ecclesiastical buildings at Ravenna, this is perhaps the most important and interesting, being that which has undergone less change than any other. It is almost exactly contemporary with S. Apollinare Nuovo and S. Vitale, having been built in the second quarter of the VI cent., and dedicated in 549 by the bishop Maximianus. It is a rectangular basilica, standing on the site of the abandoned port of Classis, some three miles south of Ravenna, and measuring about 215 ft. in length by 105 ft. in breadth, with nave, aisles, tribune, and clerestory, a high narthex swung across the front with no architectural relation to the church, and a round campanile standing detached at the N. E. angle. The church was formerly approached through an atrium or forecourt, but this has long since disappeared. The whole exterior is of rough brickwork and of the simplest design, the front and narthex being singularly bare and rude, and the sides of aisles and clerestory divided by flat pilasters into round-arched panels with plain windows. In the upper stories of the campanile are coupled windows with mullion-shafts. The interior has a nave 45 ft. broad, and side aisles from which it is separated by twelve columns on each side, of gray veined marble, resting on square plinths with panelled faces, of which a portion has probably been buried by the raising of the pavement. Their capitals, of modified classic forms and Byzantine character, carry low stilt-blocks marked with crosses, from which spring round arches with moulded archivolts and variously panelled soffits. The high wall of the clerestory now presents a bare surface of plaster, pierced with plain round-headed windows. The roofs are of wood, and are of the rudest kind. The tribune, of nearly the full width of the nave, and covered by a semi-dome, is round within and polygonal without, and pierced with windows. The floor of the tribune is raised by eleven steps above that of the nave, but there is no crypt,

though there is beneath the tribune a narrow passage following the circular wall of the apse, from which opens a small rectangular burial chapel under the high al-



Fig 157.—Ravenna, S. Apollinare in Classe.

tar, in which were deposited the remains of the saint. The sepulchral urn which contained them is still here, but the body was said to have been removed in the IX cent., to save it from apprehended desecration by the Saracens, and deposited within the church of S. Martino, inside the city, of which the name was then changed to S. Apollinare Nuovo (*q. v.*). But some antiquaries maintain that the remains were taken from the burial chapel only to be deposited beneath the high altar in the tribune. The apse is flanked by a small chapel on either side, opening from the end of the aisle by a doorway, and terminating in a small eastern apse. Of the sumptuous decorations which formerly adorned this church, scarcely anything remains except the mosaics of the vault of the tribune and of the wall above the tribune arch. These are in admirable preservation, and are perhaps, in design and execution, as good an example as can now be found of the Byzantine mosaics, though inferior in richness of color to those of S. Apollinare Nuovo. On the clerestory wall directly above the nave arches, on either side, runs a line of medallions in fresco containing modern portraits of the bishops and archbishops of Ravenna from the I cent., replacing the original mosaics which were carried off in the XV cent. by Sigismund Malatesta. At the east end of the north aisle is an altar of stone, covered by a curious baldacchino erected in the IX cent. to S. Eleucadio. It has four columns with twisted shafts, without bases but resting on rude square plinths, and with curiously carved capitals. These are joined by four segmental arches, with borders of a broad interlaced Byzantine design, and spandrels decorated with a vine pattern. The sculpture is repeated on the inner faces of the arches. (*See Fig. 157.*)

S. Apollinare Nuovo, one of the

two principal basilicas of Ravenna, built at the beginning of the VI cent. by Theodoric as the Arian Cathedral. It was a fully developed basilica, with atrium and narthex, of which the former has disappeared and the latter has been replaced or rebuilt. The exterior, like that of most of the monuments of Ravenna, is simple and even rude, of rough brickwork, with little or no attempt at ornament. The façade shows above the modern narthex three divisions corresponding to the nave and aisles, of which the centre division has a modern two-light window and a low gable. The narthex is a graceful composition of five round arches on Ionic columns, the three central arches corresponding to the breadth of the nave and divided from the end arches by pilasters. At the south angle of the front stands a tall round campanile, with many small round-arched windows, single and grouped, of which only the lower portion is of equal age with the church. The interior has a broad nave, separated from the aisles on either side by twelve columns of gray marble, brought from Constantinople. They have acanthus capitals of varying size and design, probably taken from older Roman buildings, and are surmounted by clumsy stilt-blocks, carrying round arches with moulded archivolts and panelled soffits. Between these arches and the high clerestory, which is pierced by broad round-arched windows, is a broad frieze filled with a magnificent series of mosaics dating from the latter half of the VI cent., and of a great variety of subjects—processions of saints bearing crowns and receiving the benediction of the Saviour seated on a throne—processions of virgins with crowns, headed by the three Magi presenting their offerings to the Virgin Mary and the Child—representations of the city of Ravenna with the church of S. Vitale, and the port of Classis with ships on the sea, etc. The wall of the clerestory also is covered with mosaics—single figures of prophets between the windows, and pictorial subjects on a smaller scale above. The nave is covered by a flat panelled wooden ceiling. The eastern apse, rebuilt in the IX cent. on the old foundations, is preceded by a rectangular compartment covered by a groined vault. This portion of the church has been wholly modernized in the worst style of the Renaissance. An early marble pulpit with bas-reliefs stands between two of the columns on the south side of the nave. This church was originally called S. Martino in Cœlo Aureo, but when the body of St. Apollinaris was supposed, rightly or wrongly, to have been transferred hither from his church



Fig. 158.—Ravenna, S Apollinare Nuovo.

at Classis to preserve it from desecration by the approaching enemy, it received its present name. (*See Fig. 158.*)

S. Francesco. One of the earliest of the many basilicas of Ravenna, dating from the first quarter of the v cent., but much changed by modern restorations. Its ancient square campanile still stands at the angle of the front, and its two ranges of marble columns, eleven on either side the nave, are unchanged. They are evidently from some more ancient classic building and their capitals bear stilt-blocks, which are said to have been the earliest examples of that characteristic feature. The ceiling is modern. Many interesting tombs and other relics of the age when the church was built are still to be seen within it, among them a sepulchral urn containing the ashes of S. Liberius, archbishop of Ravenna, and decorated with bas-reliefs; under the choir are remains of the crypt, or of the lower part of the original church.

S. Giovanni Evangelista. One of the less important of the remarkable group of basilicas, which were built in Ravenna during the v and vi centuries. It has been much changed by restorations, but still retains its twenty-four marble columns with Corinthian capitals and stilt-blocks, its eastern apse, polygonal without and circular within, and its square campanile. The front has a pointed doorway belonging probably to the xiii cent., richly decorated with sculptures. The mosaics of the interior have disappeared, with the exception of some fragments of a pavement in one of the chapels. The ceilings and vaults have at various periods been adorned with frescoes, of which those in a chapel have been affirmed to be the work of Giotto. The ancient altar, richly decorated with marble and porphyry, is still preserved in the crypt. The church is said to have been founded in the early part of the v cent., by the empress Galla Placidia, in fulfilment of a vow made during danger of shipwreck, while on a voyage from Constantinople to Ravenna. It is supposed that an atrium occupied originally the site of the little square in front of the church.

S. Giovanni in Fonte. See *Baptistery*.

S. Spirito, called also S. Teodoro, is perhaps the oldest church in Ravenna. It is a three-aisled basilica, its somewhat stilted arcades carried on fourteen early columns with stilt-blocks, and the apse built in between two square chapels. On the outside of the south aisle-wall are traces of an open colonnade, perhaps added, perhaps incorporated. It was adopted by Theodoric at the end of the v cent., from a very early church built by Agapitus in 206—some think it was first built by Theodoric—as the first Arian church in Ravenna. Near by is Sta. Maria in Cosmedin (*q. v.*), the so-called Arian Baptistery.

S. Teodoro. See *S. Spirito*.

S. Vitale, one of the most interesting and characteristic of Byzantine churches. Its external walls, entirely of brick-work laid with joints as thick as the bricks, are quite bare. Its disposition is that of a central octagon about 50 ft. in diameter, covered by a dome not visible externally, and surrounded by two stories of exterior aisles or galleries. The angles of the octagonal galleries are masked by projecting buttresses, which are connected with the piers of the central octagon by round arches in each gallery. The exterior faces of the gallery walls are broken by flat pilaster-strips and simple brick cornices. The wall of the central octagon above the roof of the gallery is pierced by a window over each face of the octagon, and covered by a low-pitched roof hiding the dome within, which is of remarkable construction, being built wholly of hollow earthern pots, laid spirally in cement, a light construction common in the East from early times. A small narthex or entrance porch, de-



Fig. 159.—Ravenna, S. Vitale.

nect each of the great piers with the external wall, and covered by four-part vaulting of singular form, each of the eight bays being divided into three vaults. The same arrangement is repeated in the gallery of the second story. From the easternmost side of the central octagon opens the tribune or choir, consisting of an oblong groin-vaulted bay, opening on either side by three arches into the surrounding aisle, and terminating in a semicircular apse covered by a semi-dome. This remarkable interior has been much disguised by modern painting, but its decoration, except where in recent times it has been subjected to reconstruction, is in the highest degree characteristic of Byzantine architecture. The walls and vault were everywhere covered with mosaics of great richness and beauty. Of these only a small part remains. Those of the choir and tribune are, however, still in admirable preservation. They rep-

stroyed in the earthquake of 1688, formerly occupied the western face of the octagon, and the apse of the choir projects from the eastern face. The narthex was flanked by two circular towers—one of which still remains—not rising above the roof of the upper gallery, to which a spiral stair in each tower gave access. Two similar towers, but lower, stand at the sides of the eastern apse. The original narthex was replaced by a longer one following the street line obliquely to the church, and touching it only at one of the angles of the aisle. The interior plan is somewhat complicated. (*See Fig. 160.*) The central dome is carried on eight massive piers of peculiar form, which are joined by round arches. The intervals between the piers are occupied, on seven of the eight sides, by semicircular niches in two stories, projecting into the surrounding aisles and borne on three round arches springing from columns. The surrounding aisle is divided into bays by round cross arches which con-

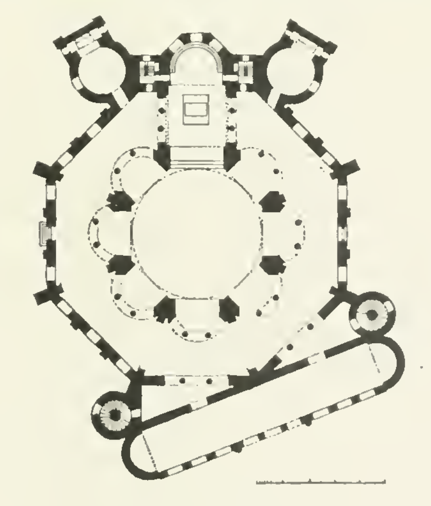


Fig. 160.—Ravenna, S. Vitale.
Scale of 50 feet.

resent the Saviour crowned, with angels and archangels, the apostles and saints, the emperor Justinian and the empress Theodora, and various scriptural subjects. The columns of the choir are of verd-antique and Egyptian marbles, the walls and the great piers and the soffits of the arches were faced with marble slabs, and on the former are traces of a frieze. The mosaics of the dome have been replaced by a coarse decoration in fresco of the XVIII century. The columns, particularly those of the first story niches, are extremely noteworthy. They are about twenty-two inches in diameter, with no regular base, but resting on an expanding series of thin disks of stone. The characteristic capital is trapezoidal, and covered with a fine interlaced basket-work, and with panels filled with conventionalized foliage, and surmounted by a high stilt-block. The upper columns are modifications of classic forms. They also are surmounted by square stilt-blocks with their sides carved with slightly indicated leafage. The Byzantine style was introduced into Ravenna through the intimate connection maintained by the bishops with the court of Constantinople. This connection was close toward the end of the reign of Theodoric, and it was in the year of his death, 526, that the church of S. Vitale was begun. It was thus almost exactly contemporary with Sta. Sofia at Constantinople. The church was built without interruption, and was consecrated by Maximianus, the successor of Ecclesius, in 547, two years before the consecration of S. Apollinare in Classe. (*See Figs. 159, 160.*)

SS. Nazzaro e Celso. See *Mausoleum of Galla Placidia.*

Sta. Agata. An open-roofed basilica with a deep apse and without transept. Twenty irregular antique columns carry the arcades of the nave on stilt-blocks which are marked with a cross. The crypt remains, and the inner vestibule, opening into the nave by a simple arch, is perhaps original; but the apse has been rebuilt, the clerestory windows changed, and chapels added. The outside, with a gabled front, retains a good deal of its old aspect.

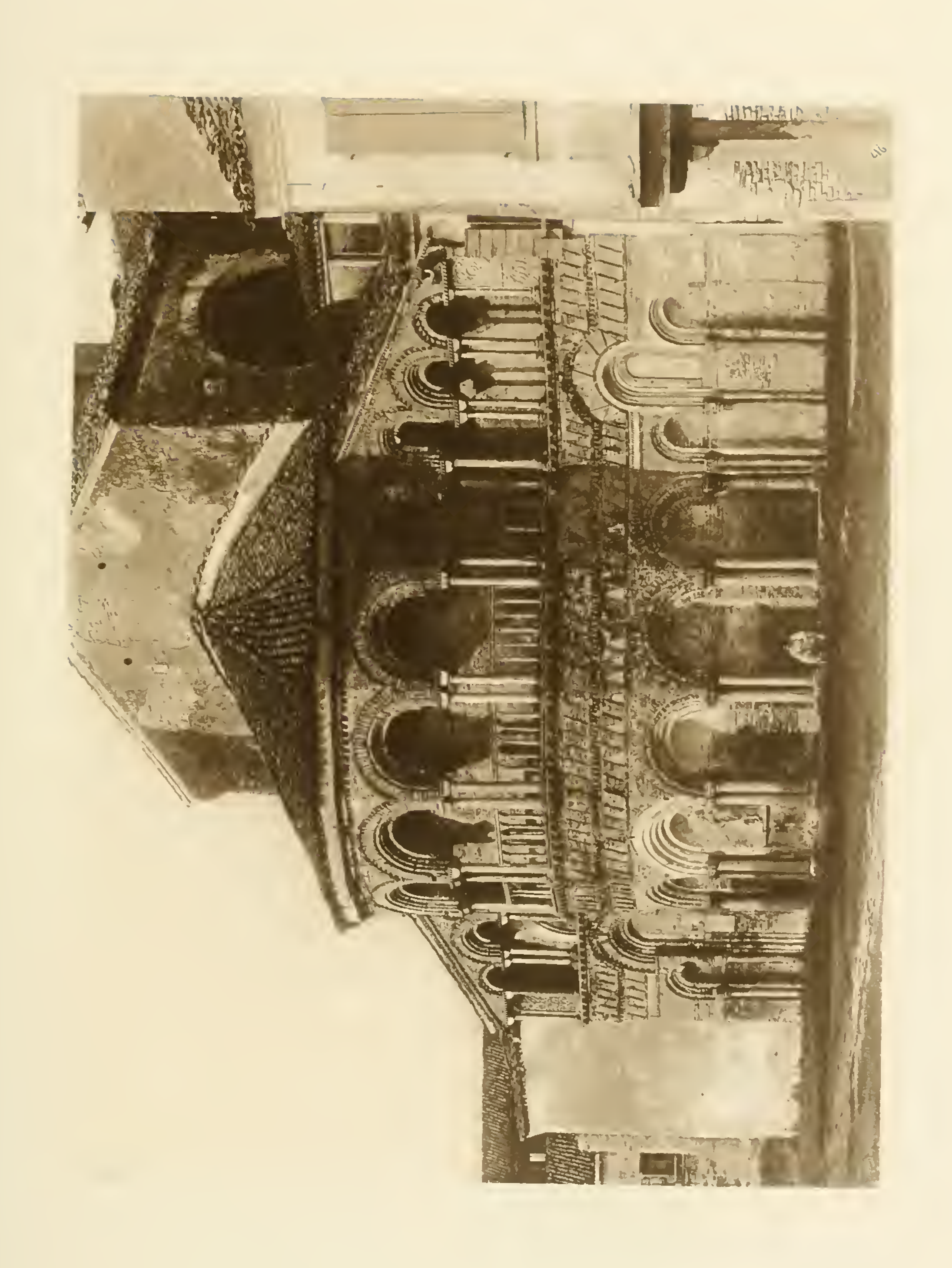
Sta. Maria in Cosmedin. An early octagonal building of rude brickwork belonging to the same period with the many others erected under the Gothic Theodoric. This was the Arian Baptistery, but became a Roman church in the VI cent., when a rectangular nave was added to the original octagon. It is a small building about 24 ft. in diameter, with shafts in the interior angles with Corinthian capitals, carrying no stilt-blocks, and a round arch in each face of the octagon. Above these arches is a second range, also on Corinthian columns, and above these the octagonal dome, covered with mosaics which date from the period of the conversion of the building to the uses of the Roman church in the VI cent. by Archbishop Agnello, who converted the baptistery into an orthodox church by adding to it a nave of equal breadth. The walls were quite plain, but have been decorated with frescoes of late date. A large circular granite plinth in the centre of the pavement is supposed to have been the foundation of the font, which has now disappeared.

Sta. Maria della Rotonda. See *Theodoric's Tomb.*

Theodoric's Palace, so-called. All that remains of this building, which was of great extent and magnificence, is a portion of two-storied brick wall about 60 ft. long, which now makes the front of the Franciscan convent attached to the adjoining church of S. Apollinare Nuovo. A central division contains a round-arched doorway with voussoirs of red and white marble, with square jamb pilasters and Byzantine capitals, without projection. Above the doorway is a broad and deep semicircular recess with angle shafts, covered by a semi-dome. On each side are coupled arches at the ground level, now

MURANO—S. DONATO







walled up, and high above, a group of four blank stilted round arches, carried on columns with stilt-blocks, corbelled out on a projecting sill. A simple horizontal cornice, probably modern, finishes the front. Against the wall, in the right-hand division, is set what was believed to be the sarcophagus of Theodoric, but which is with more reason now presumed to have been a bath. This fragment of wall is probably a portion of a wing of the building, the exact location of which is not known. The columns, mosaics, and other decorations were carried off by Charlemagne, with the consent of Pope Adrian I., to adorn his various buildings at Paris, Ingelheim, and Aachen.

THEODORIC'S TOMB, called also Sta. Maria della Rotonda, one of the most remarkable of the early monuments of Ravenna, standing about half a mile without the walls of the city. It is a circular building of stone, some 34 ft. in diameter internally, standing on a high decagonal basement, on which stood originally an arcade supported on columns, surrounding the circular building, and approached by two exterior staircases carried on broad flat arches resembling flying buttresses, which staircases are probably modern. Each face of the basement wall is pierced with a round-arched niche, square in plan, the voussoirs of the arches curiously joggled. The wall of the upper building is plain, pierced with small windows, perhaps of later date, above the roof of the missing arcade. It is crowned by a heavy decorated cornice of very peculiar design, and above this is a flat elliptical dome formed of a single block of Istrian limestone, around the edge of which are ten projections of uncertain character, which, it is conjectured, served as handles for the convenience of raising and setting this ponderous stone, whose weight has been estimated at above four hundred tons. The interior is divided into two stories, of



Fig. 161.—Ravenna, Theodoric's Tomb.

which the lower is cruciform in plan; its floor is some feet below the present level of the ground. The upper story, entered only by a square doorway from the exterior terrace, is circular, without architectural or other decoration, and roofed by the low dome. Opposite the door of entrance is a square niche, perhaps of later date than the building. The tomb was built, according to some authorities, by Theodoric himself; according to others, by his daughter Amalasuntha. In either case, it belongs to the first third of the VI century. (*See Fig. 161.*)

RHAMNUS, Attica, Greece.

TEMPLE OF NEMESIS, on a terrace above the town and the sea. It was a Doric peripteros, 75 ft. by 37 ft., with twelve columns on the flanks, and six on the fronts. Eight columns are still standing. The cella had a pronaos and an opisthodomos. The statue of the goddess, attributed to Phidias, was carved, according to tradition, from a block of Parian marble which had been brought by the Persians to set up as a trophy for their expected victory in Attica.

Smaller TEMPLE, upon the same terrace with the Temple of Nemesis. It consisted of a cella with two Doric columns of Poros stone, *in antis*, and measured 35 ft. by 21 ft. Nothing remains but shattered foundations. This was probably the old temple of Nemesis ruined by the Persians.

RIETI, Italy.

The CISTERCIAN MONASTERY of S. Pastore, near Rieti, was colonized from that of Casanova in about 1218, and its construction dates from about the middle of the XIII century. An inscription in the cloister gives the year of its foundation as 1255, and its architect as Anselm. The church, built of stone, is cruciform in plan, with a square apse, four square side chapels, and six bays to the nave—the usual Cistercian plan. Its exterior is entirely ruined and modernized. The interior is a fine specimen of pure Cistercian Romanesque. Its length is nearly 125 ft., its width 60 ft., and at the transept 83 ft. The nave measures 26 ft. and the aisles 12 ft. in width. The high round arches of the nave rest on simple cruciform piers, from whose projecting faces spring pilaster-strips along the wall of the nave and aisles, and sub-arches. The main vaults of the transept and apse are great pointed tunnel-vaults that rise to a height of between 45 ft. and 50 ft. The low side-chapels have cross-vaults. The vaults of the transept are 21 ft. wide, that of the apse 27 ft. The nave and aisles are at present covered by wooden roofs, but it is probable that they also originally had tunnel-vaults. The effect of the whole interior is one of extreme loftiness, exceeding that of any other Cistercian church in Italy. The vaults show the hand of French architects or their scholars.

The Monastic Buildings still remain in part. The chapter-house is a fine hall whose vaults have mouldings like those of the episcopal palace at Rieti: there also remain two tunnel-vaulted halls and part of the refectory of the XIII century. The present cloister is of brick, and was built in the XV cent. by Abbot Silvester, whose inscription, dated in 1476, shows that he built and restored much in the monastery. A bell in the tower which rises over the apse has the date 1292. The architecture of this monastery is similar to that of its mother monastery Casanova, and its sister monastery S. Silvestro d'Acre: all being based upon the tunnel-vaulted style first exemplified in Italy in the Cistercian monastery of SS. Vincenzo ed Anastasio, outside Rome. [A. L. F., Jr.]

RIMINI (anc. Ariminum), Italy.

AMPHITHEATRE, built probably in the III cent. A.D., and restored in the VI. The plan is elliptical, the greater exterior diameter 393 ft., the lesser diameter 298 ft.; the axes of the arena 250 ft. and 155 ft. The whole building was of brick excepting the seats, which were of marble. The arena was surrounded by four concentric walls, the outer one of which was pierced with sixty arches.

ROMAN BRIDGE of five arches over the river Marecchia (ancient Ariminus), at the junction of the Flaminian and Æmilian Ways. The bridge, begun by Augustus and finished by Tiberius, is of white travertine in very large blocks, and of admirable construction. It is ornamented with Doric details, the keystones carved with vases and civic crowns, and the interior of the parapet still bears the inscription commemorating the construction. The length of the bridge is 236 ft., its width about 15 ft., and the span of the central arch, which is the widest, 34½ ft. One arch was broken down by the Goths in 552, but was well restored in 1680.

S. FRANCESCO, the present cathedral, originally a Gothic church of the XIV cent., with a nave about 30 ft. wide and 115 ft. long, flanked by three rectangular chapels on each side, opening from the nave by high pointed arches in a flat

wall. The choir is a single oblong bay with a great round apse. In 1450 the church was transformed, for the lavish and tyrannical Sigismund Malatesta, by Leon Battista Alberti, whose masterpiece it is next to S. Andrea at Mantua. Alberti converted it into a sort of Heroön for the Malatesta family, and an embodiment of the aspirations of the Renaissance. It is called the Tempio Malatestiano, and is profusely decorated with classic ornaments and emblems, mythological sculptures, the elephants and other cognizances of the Malatesta, and the initials of Sigismund, and of his mistress and tardy wife Isotta, the only symbol of Christian worship left to it being its older name, S. Francesco. Alberti's façade is a sort of triumphal arch with three arches, the middle one, larger than the rest, containing the door, in the intervals of an engaged Corinthian order, above which the upper part, unfinished, suggests a single gable broken by a raised centre with an order of pilasters. A dome was to have crowned the church, but was never built. The sides are faced with a series of great arched niches, containing sarcophagi of the Malatesta and their friends. Within, the great pointed arches remain, and the walls are covered with a profusion of pilasters, large and small, singularly arranged, with panels and reliefs and carved ornament. A simple open-timbered roof takes the place of the intended wooden vault. The rich marbles with which the church is profusely ornamented are in great part the spoils of older buildings. (*See Fig. 162.*)



Fig. 162.—Rimini, S. Francesco.

Triumphal Arch, now called Porta Romana, and spanning a street of the city. It was erected in honor of Augustus, in commemoration of the building of the Flaminian Way. It is a massive and well-built structure of white travertine, pierced by a single arch of 29½ ft. span and 27 ft. high; a Corinthian fluted column on each side supports an entablature, above which is a low pediment, and remains of mediaeval battlements crown the whole. The spandrels are decorated with medallions, on one side of Jupiter and of Venus, and on the other of Neptune and of Mars. The total height is 46 ft.

RIVA, Italy.

Sta. Croce. A small and singular Renaissance church belonging to the first half of the XVI cent., of which the design is attributed to Cristoforo Solari. It is an octagon about 40 ft. in diameter internally, surrounded by a Roman Doric arcade, of whose four cardinal arches one encloses the entrance door and the others open into square chapels. The four intermediate arches open into triangular niches which fill out the plan to a square. Above the arcade is the windowed drum of a high octagonal dome, decorated with frescoes and covered with a low pyramidal roof and a small lantern.

LA ROCCELLETTA (Del Vescovo Di Squillace), near Catanzaro and Squillace, Italy.

The Basilica, which dates apparently from the IV or V cent., is the most inter-

esting and perhaps the oldest of the very early churches in the old kingdom of Naples. It is of the Latin type, about 150 ft. long, with nave and aisles, broad transept, and three eastern apses. The nave columns and the roof are gone; otherwise the church is well preserved. Under the choir and apse is a large crypt. The masonry appears to be Roman, of the period immediately after Constantine; the walls are of stone, banded with large bricks, and the windows arched in brick. This part of Italy was Latin, and ecclesiastically dependent on Rome, as late as the VI cent.; but afterward came under the Greek Church and was dependent on Constantinople. It is possible that this basilica dates from the time when Cassiodorus, the prime minister of Theodoric, withdrew to Squillace, and founded in this neighborhood the great monastery of Vivarese, and other ecclesiastical establishments. In a wall near by is set a Byzantine relief in marble representing the Virgin and Child. The Virgin wears the costume of the empress Theodora in the mosaics of St. Vitale at Ravenna, and the Child is dressed like a little Roman emperor of that period. The workmanship is excellent, and the relief may have come from the church.

ROME (Roma), Italy.

S. ANGELO. See *Castle of S. Angelo.*

ARA CŒLI. See *Sta. Maria in Araceli.*

ARCUS ARGENTARIUS, the Arch of Septimius Severus on the Velabrum (called Arch of the Silversmiths), erected by the money-changers and merchants of the Forum Boarium to the emperor, the empress Julia, and their sons Caracalla and Geta. The monument is of brick encrusted with marble; the masonry is good, but the over-rich decoration testifies to the decadence of art. The cornice consists of seven elaborately moulded members, and the frieze bears exuberant foliage ornament. On each long side there are four, on each small side two, pilasters with Composite capitals. On the sides of the opening, which is not an arch, but has a flat lintel, are reliefs representing the emperor and his family offering sacrifice; though damaged, they are of much value from the archæological details illustrated. There are also some sculptures on the exterior. This arch was obviously the model for much of the decoration of the early Renaissance. It abuts against the church of S. Giorgio in Velabro. (*See Fig. 182.*)

ARCH OF AUGUSTUS, a triumphal arch erected in honor of the victory at Actium. It stood on the Forum Romanum, adjoining the Temple of Julius, and was in part masked by the Temple of Castor and Pollux as rebuilt by Tiberius. This arch is now gone except its massive foundations of travertine, which were discovered in 1888. These show that it had three archways, the central one of which was 14 ft. in span.

ARCH OF CONSTANTINE, the best preserved of Roman triumphal arches, and in general effect the most impressive. It was dedicated in 315 A.D. It has a large central archway flanked by two smaller arches. Each front is ornamented with four Corinthian columns on pedestals, supporting blocks of the entablature, which, with the dies resting upon them, form pedestals for statues in Dacian costume. Above the entablature is a high attic, the central compartments of which bear inscriptions, the others are filled with reliefs taken from the monument of Trajan, and representing that emperor's triumphs over orientals and Dacians. Beneath the entablature, on each face, over the small arches, there are four circular medallions presenting scenes from Trajan's private life, also abstracted from his monument. Beneath these a small band is carried round the structure, with very rude sculptures of Constantine's campaigns. In the spandrels of the large arch are Victories, rudely carved, and in those of the small arches nymphs and

river deities. On the side-walls of the large archway are other reliefs portraying exploits of Trajan, and on those of the small arches portraits of the sons of Constantine. On the basement-piers are sculptured Victorys and barbarian prisoners. On the summit originally stood a bronze group of Constantine in a quadriga. The reliefs of the time of Trajan represent the highest type attained by Roman decorative art; the contrast with them of the rough sculptures of Constantine's day is striking. The height of the large archway is 38 ft., of the small ones 24½ ft. (*See Fig. 163.*)

Arch of Drusus, father of the emperor Claudius, erected over the Appian Way by decree of the Senate in 8 B.C., in recognition of the general's successes in the Rhætian and German wars. It has a single archway of massive travertine masonry, flanked by two Composite columns on high pedestals. Traces can be distinguished in the mass of masonry first placed on the arch by Caracalla, who made it serve to carry the Anio aqueduct over the street, of the pediment which originally surmounted the entablature. In the middle ages it was transformed into a fortified tower. Upon the attic were originally placed an equestrian statue of Drusus and military trophies.

Arch of Gallienus, now a simple arch of travertine, 29 ft. high and 24 ft. in span, flanked by pilasters with Corinthian capitals supporting an entablature, and bearing an inscription of 262 A.D. commemorating the invincible bravery and the remarkable piety of Gallienus. A drawing of the XV cent. shows this arch with a central decorative pediment and two side portals. It was erected in 262 A.D., in the line of the Servian wall, and corresponds to the ancient Esquiline Gate of Tarquin, part of whose foundation exists. It spans the modern Via di San Vito.



Fig. 163.—Rome, Arch of Constantine.

Arch of Janus Quadrifrons, a four-way arch of Greek marble at one extremity of the Forum Boarium, built in part of older materials. It is heavy and debased in style, and instead of having any connection with Janus, it is plausibly conjectured to have been built for the triumphal entry of Constantine after his victory over Maxentius. It was used in

antiquity as a sort of financial exchange or bourse. It is pierced by two passages at right angles, leaving four massive angle-piers, the central space being covered by a groined vault formed of pots. On each face, arranged in two tiers beside the archway, are twelve niches, eight for figures of divinities and four blind. The frieze and cornice are much damaged, and the attic is gone. The present height is 39 ft.

Arch of Septimius Severus, in the Forum Romanum, built 203 a.d., in commemoration of the victories over the Parthians and Arabs, and in honor of the emperor and his sons Caracalla and Geta. It has three archways with coffered vaults, the central one much the largest, flanked by Composite columns on high basements. In the spandrels of the large archway are carved Victorys bearing trophies; in those of the smaller ones are river gods. Over the small archways are reliefs presenting incidents of the campaigns, and on the pedestals of the columns are sculptured captive barbarians. The high attic bears pompous inscriptions, and originally supported a group in bronze of the six-horse triumphal chariot of the laurel-crowned emperor. The substructure is of travertine, the columns of proconnesian marble, and the rest of the monument of pentelic. The width is 82 ft., the height 75 ft. From the artistic side the monument shows decadence in its proportions, and particularly in its sculpture.

Arch of Septimius Severus on the Velabrum. See *Arcus Argentarius*.

Arch of Titus, a monument dedicated in 81 a.d., by the Roman senate and people, in honor of the destruction of Jerusalem in 70 a.d. It stands on the elevation called the Velia, S. E. from the Forum Romanum. In the middle ages it was embodied in the construction of a fortress-tower of the Frangipani, and it was not isolated until 1822. It is a triumphal arch of a single opening, simple in outline, and in excellent architectural taste. The archway is flanked on both faces by two engaged Composite columns on each side, supporting an entablature whose frieze is sculptured with a sacrificial procession. Above the cornice rises an attic about 14 ft. high, bearing in panels the dedicatory inscription and that commemorating the restoration by Pius VII. Upon it originally stood a four-horse chariot. The spandrels of the arch are carved with Victorys. It is especially noted for the reliefs which adorn the interior of the passage. These count among the best productions of Roman decorative art, and represent on one side the emperor Titus crowned by Victory in his triumphal chariot, conducted by the goddess Roma and attended by lictors and rejoicing citizens; and on the opposite side the procession with the booty of Jerusalem, in which the shew-bread table and the seven-branched candlestick are conspicuous. At the summit of the coffered vault Titus is seen borne up to the gods by an eagle. The height of the arch is 51 ft.

Arch of Trajan, originally connecting the Forum of Trajan with that of Augustus. Its sculptures were used to adorn the existing Arch of Constantine, and other fragments survive in the Lateran Museum.

Atrium Vestæ. See *House of the Vestal Virgins*.

Auditorium of Mæcenas, so-called, an interesting structure in the ancient gardens of Mæcenas. It is rectangular in plan, 62 ft. by 34 ft., with six rectangular niches in the side walls of the interior, and at one end a semicircular exedra of six tiers of seats originally encrusted with marble. The niches are painted with trees, flowering plants, and birds, of good style. The walls show inside and out the *opus reticulatum* masonry, in small blocks of tufa, of the early empire.

Baptistery of Constantine. See *S. Giovanni in Fonte*.

Barracks of the Vigiles, a body of

men enrolled from the beginning of the empire, under military discipline, to serve as police, firemen, and lamplighters. The *stationes* were sumptuous buildings, with halls decorated with marble and mosaics, as well as statues and other works of art. The minor barracks were also large and fine buildings. The most perfect of them surviving is one of the two of Cohort VII., near the church of S. Crisogono in Trastevere. It has a large colonnaded atrium with mosaic pavement, surrounded by series of rooms, some of them lavishly decorated, which formed two, and perhaps three, stories. Among the rooms are an interesting *lararium* or chapel, and one fitted as a spacious plunge-bath, with incrustation of thin slabs of colored marbles arranged in panels.



Fig. 164.—Rome, Basilica of Constantine and SS Cosmo and Damiano.

Basilica of Constantine, on the Forum Romanum, formerly known as the Temple of Peace, built by Maxentius, and after his fall dedicated in the name of Constantine. The foundations of the great structure, the finest example of a vaulted basilica, can be traced throughout, and sufficient of the piers and vaulting remains standing to afford material for a complete restoration. The building is of architectural importance from its wide deviation from classical traditions, so that it represents a step in the development of later styles. It consisted of a nave 262 ft. long and 82 ft. wide, flanked by aisles 52 ft. wide. Each aisle was vaulted in three bays at right angles to the nave. The vaults of the north aisle, with their imposing arches 80 ft. high and 67 ft. in span, are still standing, and were studied as models by the architects of St. Peter's. At the western extremity of the nave there was a tribune. At a subsequent date, an entrance with a portico and a flight of steps was formed in the middle of the south long side, and a second tribune was constructed opposite to it in the central bay of the north nave. At the east end a seven-arched portico was carried across the entire front. In the exterior wall of each bay of the aisles opened three large arched windows. The nave was covered with groined vaulting, which attained the height of 115 ft., and also had windows. The decoration included huge columns, niches, and many statues. The basilica was ruined by an earthquake in 1349. (*See Fig. 164.*)

Basilica Jovis, a great hall to the right of the entrance of the palace of Domitian, on the Palatine Hill, forming a room of the palace for the administration of justice. It is of excellent proportion, with wide nave and narrow side-aisles, each separated from the nave by a range of seven columns. At one end there was a large apse with seats for the judges. A balustrade divided the space reserved for the magistrates from that open to the public. This hall was probably vaulted, and in type it is very close to the earlier Christian basilicas.

Basilica Julia, on the south side of the Forum Romanum, a great building

begun by Cæsar in 54 B.C., and finished by Augustus. It formed practically a covered forum for the courts of justice and the needs of business. It was greatly injured by fire, and was restored in 377 A.D., by the prefect Gabinius Vettius Probianus. The existing remains represent this restoration. In plan, it is a rectangle 151 ft. by 338 ft., the long sides being the fronts. It had neither columns nor projecting tribune, but on the long sides three ranges of arcades, each resting on eighteen piers, and on the small sides also three ranges, each with eight piers. The central space, measuring 59 ft. by 253 ft., had fourteen piers on each long side and four on each small side. The Basilica had galleries over the aisles, which were covered with groined vaulting; the central space was roofed with wood, or possibly sheltered merely by an awning. The pillars were partly of brick, partly of travertine; those on the Forum front were of travertine. On the outward side, the piers were adorned with semi-columns, those of the first story being Doric with three rosettes on the neck and Attic bases, and those of the second story being Ionic. The range of arcades toward the Forum was called the Porticus Julia; in it were placed the tables of the money-changers. The central space, two steps higher than the porticoes, was enclosed by perforated barriers of marble; it was especially appropriated to the civil court. Twenty-four piers have remained standing, most of them toward the N. W. corner. On the south long side there remain piers and walls of tufa, forming a row of shops, which represent the constructions of Cæsar.

Basilica Ulpia, occupying a great part of the N. W. end of the Forum of Trajan. Both its ends are covered by modern houses, but the lower parts of the columns and walls of the central portion are exposed. It was of two stories, 184 ft. wide, five-aisled, the width of the middle aisle 82 ft. The long sides were the chief fronts. The columns were of giallo antico, pavonazetto, and granite; the roof was covered with sheets of bronze, and the floor paved with marbles of different colors. It is held by some authorities that the central space was open to the sky. On the N. W. side of the basilica was a court surrounded by two-storied colonnades; in the centre of this court stood the column of Trajan.

Baths. See *Thermæ.*

Bocca della Verità. See *Sta. Maria in Cosmedin.*

Bridge of Sant' Angelo, the chief bridge of Rome, built in 134 A.D. by Hadrian, directly opposite his monument, and in antiquity called the Pons Ælius and forming part of the Via Aurelia. Five of the massive travertine arches are ancient, the sixth dates from the XVI century. In 1530 Clement VII. set up the statues of St. Peter and St. Paul on the parapet at the entrance of the bridge, and in 1668 Clement IX. placed the statues of the ten Angels of Suffering over the piers.

Bridge of the Quattro Capi, as now called from the quadruple Janus-heads on the surviving one of the ancient barrier-piers. It is the oldest surviving bridge of Rome, the ancient Pons Fabricius. The original inscription, which is still in place over one of the two fine semicircular arches, shows that it was built by Fabricius in 62 B.C., and tested by the Consuls Paulus Æmilius, Lepidus, and Marcus Lollius, in 21 B.C. The rough masonry is of tufa and peperino, the facing of travertine. The central pier is pierced by an arched opening framed by pilasters. The bridge, 230 ft. long and 21 ft. wide, leads to the island in the Tiber, forming one section of a bridge to the Trastevere.

Campidoglio. See *Capitol.*

The Cancelleria, one of the largest and most important of the Roman palaces, built at the end of the XV cent., from the designs of Bramante, for Cardinal Riario,

nephew of Sixtus V., for the uses of the papal chancery. The buildings are extensive, covering an area about 235 ft. square, and including as an integral part of the plan the church of S. Lorenzo in Damaso (*q.v.*). A portion of the official apartments lies behind and at one side of the church, but the greater part is disposed about a great oblong court of imposing design, one of the most justly celebrated works of Bramante, measuring about 70 ft. by 110 ft., and surrounded by two stories of vaulted arcades, the arches in both springing from quasi-Roman Doric columns, of which the shafts of red granite were taken from the ancient basilica of S. Lorenzo which was replaced by the new church, and more remotely from the neighboring theatre of Pompey. The arcades are each crowned by a full entablature, and above the arcades is a third stage, consisting of a flat wall faced with an order of Corinthian pilasters embracing two half-stories, the windows of the lower square with moulded architraves and horizontal caps, those of the upper small and round-arched, surrounded by simple moulded architrave. The façades are of great elegance. They are in three stages of rustic masonry: the first stage a plain wall with single round-arched windows, crowned by a strong moulded cornice; the two upper stages each with an order of flat Corinthian pilasters arranged in couples. The principal front on the Campo dei Fiore has a length of nearly 300 ft., of which about one-third covers and hides the church of S. Lorenzo. At each extremity is an angle pavilion of no great projection. The first story has two doorways, one forming the entrance to the palace and the other to the church. The latter, designed by Vignola, is comparatively simple. The former, by Fontana, is much more pretentious, consisting of an arch some 10 ft. by 20 ft., with sculptured spandrels, enclosed in an engaged Doric portico of four columns, with triglyphs in the frieze and surmounted by a balustrade. The walls are of travertine, perhaps taken, as has been asserted, from the Colosseum; the doorway and windows are of white marble. The details are everywhere refined and temperate. The interior has many fine apartments, some of which are decorated with frescoes by Vasari, Peruzzi, and other masters. (*See Fig. 165.*)



Fig. 165.—Rome, Cancellaria, Court

The CAPITOL. (Il Campidoglio.) The Capitol hill, the central seat of the Roman power, had at the epoch of the Renaissance become degraded from its ancient architectural splendor. The Citadel or Arx on the one side, and the Temple of Jupiter Capitolinus on the other, had disappeared. Between them the mediæval palace was still standing, rebuilt in 1380 by Boniface IX., but in its front was a rough, impracticable cliff, and in the rear were the inclined planes leading down to the Forum.

Toward the middle of the XVI cent., Paul III., desiring to put this central point into a more befitting condition, commissioned Michael Angelo to lay out the level plateau in front of the mediæval palace and to erect suitable buildings. Under his direction the old palace was substantially rebuilt and two new ones erected, enclosing on three sides a trapezoidal space about 200 ft. in depth, 170 ft. broad at the rear, where the old palace stood, and 130 ft. at the front, the two side buildings converging toward the front, like the colonnades of St. Peter's. From the foot of the hill a long inclined plane, or *gradinata*, flanked by balustrades, leads to the plateau, ending at the top in two great pedestals bearing the statues of Castor and Pollux with horses. In the middle of the square stands the ancient bronze equestrian statue of Marcus Aurelius, the only complete example of its class which is known to exist.

Fig. 166.—Rome, Capitol Hill.
Scale of 100 feet.
1. Capitoline Museum. 2. Pal. of the Conservatori.
3. Capitol. 4. Church of Araceli.

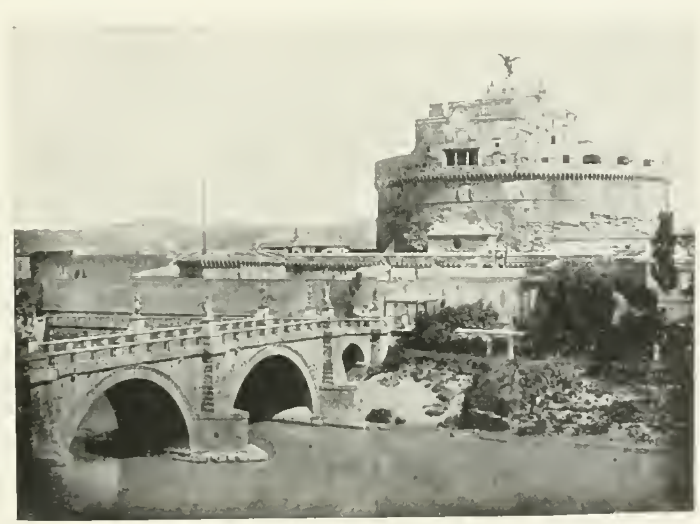
Of the buildings, the two on the sides of the square, known respectively as the Museum of the Capitol, and the Palace of the Conservatori, are alike in their exterior, the design consisting of a single strongly marked order of Corinthian pilasters standing on high pedestals, the cornice surmounted by a balustrade, the intervals including two stories, of which the first is an open loggia marked by a sub-order of Ionic columns in the intervals of the great pilasters. The second story has in each interval a square window with balustrade, enclosed by a Corinthian order with curved pediment. Both these palaces contain extremely interesting collections of ancient works of art, and the gallery of sculpture in the Museum is, next to that of the Vatican, the most important and valuable in existence. (*See Fig. 166.*)

The central building, known as the Palace of the Senator, which encloses, or replaces, the mediæval palace, is in harmony with the others, though of somewhat simpler architecture. Its plain rear wall, which towers over the Forum Romanum, is built on the remains, and even imbeds some of the Doric arcades, of the ancient Roman Tabularium. Its façade, about 200 ft. long, repeats the order of Corinthian pilasters, raised, however, on a high basement which is nearly covered by an imposing double flight of steps, the two ramps skirting the wall and meeting in the middle over an elaborate fountain. The order covers two stories of windows, the lower range substantially like those in the other palaces. Of this façade only the basement with its great staircase was completed at the time of Michael Angelo's death; the upper portions were carried out under Giacomo


Fig 167.—Rome, Capitol and Steps.

della Porta and Girolomo Rainaldi. The square tower, which takes the place of that on the mediæval palace and has two belfry stages, was built by Martino Lunghi about 1580. (*See Fig. 167.*)

Castle of S. Angelo, the modern name of the mausoleum built by the emperor Hadrian about 130 A.D., and finished some ten years later by Antoninus Pius. The ancient building was a round tower about 230 ft. across, on a huge square substructure and surmounted probably by a smaller tower, rising some 165 ft. above the ground. The exterior was faced with marble and probably encircled by a range, perhaps by two ranges, of columns which, it is said, furnished the columns of the old basilica of St. Paul without the walls. It bore upon its summit, according to some authorities, the statue of Hadrian, according to others the gilded pineapple which now adorns the upper court of the Vatican. The square basement is lost in mediæval additions, the upper circle has disappeared, and the great tower has been heightened by a blank wall crowned with an arched corbel-table surrounding the building, with a high wall above, pierced irregularly with openings of various forms and sizes. Still above this, on the side toward the bridge, rises a square building of three stories, capped with the familiar bronze figure of the archangel Michael. The masonry of the original building is of hewn peperino and of extraordinary thickness, the monument having contained but a single square chamber in the centre, approached from an entrance archway through an ascending spiral corridor


Fig. 168.—Rome, Castle of S. Angelo.

14 ft. wide and 30 ft. high, and lighted by narrow openings in the enclosing walls. The modern portions of the building contain many apartments, of which some are decorated with frescoes by Giulio Romano, Perino del Vaga, and other masters. The history of this remarkable monument is as varied as that of Rome itself. It served its intended uses as an imperial burying-place only until the death of Septimius Severus, in 211, scarcely eighty years from its commencement. Two centuries later it became a fortress under Honorius, and in the siege by Vitiges the soldiers of Belisarius defended it by throwing down its marble statues upon the heads of the Goths. During the troubled centuries which followed it fell successively into the hands of Romans, Goths, and Greeks. About the middle of the x cent. it was the stronghold of the popes, and while occupied by the French cardinals, underwent various changes of form. It was ruined by the Romans themselves in 1379, in anger at its occupation by the partisans of the antipope Clement VII., and repaired by Boniface a dozen years later. Alexander VI., about 1500, built additional fortifications between it and the river, and finished the gallery of communication with the Vatican. In 1644 the outer fortifications were built, on an extensive scale and of great strength, from Bernini's designs. Many remarkable and famous statues and other remains of ancient Rome have been found in this monument. (*See Fig. 168.*)

Chiesa Nuova. See *Sta. Maria in Vallicella.*

Church of the Gesuiti, called Il Gesù, the chief church of the Jesuit Fathers, noted for the sumptuousness of its interior decoration. It was planned and partly built by Vignola for Cardinal Alexander Farnese about 1568, and finished after his death by his pupil, Giacomo della Porta, who added the façade, with some variation from Vignola's design. Toward the end of the next century the Jesuit father Andrea Pozzo added the decorative features which set the fashion in the rococo style for Jesuit churches throughout Europe. The church is cruciform, and has a spacious nave 55 ft. wide, short transept arms, a choir of one bay and eastern apse. The four arms are barrel-vaulted and the crossing covered by a hemispherical dome. A single order of coupled Corinthian pilasters, lining the interior, shows the simplicity and dignity of Vignola's design. Square chapels with low domes border the nave and choir. The drum of the great dome is wainscoted with a smaller order of pilasters, enclosing pedimented windows and niches. The vaults are lavishly decorated, and in their lunettes are the richly framed rococo windows of the clerestory. Della Porta's façade consists of two superposed orders of coupled Corinthian pilasters. The lower story has a double pediment (a triangular within a curved) over the central door; the second, narrowed to the width of the nave and flanked by scroll buttresses, has a pedimented window between two niches under a large triangular pediment.

The Circus of Maxentius, built in 309 a.d., could receive seventeen thousand spectators. The round end is turned to the east: at its centre is the *porta triumphalis*, through which the victor passed in triumph, and at the west, between two three-storied towers, the ten carceres arranged on the arc of a circle, in which the racers were confined to insure a fair start. The circus is 1,620 Roman ft. long and 240 ft. wide; the spina is 1,000 ft. long, placed a little diagonally, so as to give more room at the entrance than at the opposite end.

Cloaca Maxima, a famous monument of the time of the kings of Rome, intended to relieve the town of rain floods. The semi-cylindrical vault of splendid Etruscan masonry in large voussoirs of tufa, with arches of travertine at short intervals, opens on the Tiber, still perfect and performing its original function. The

height of the arch is some 12 ft., and its width 11 ft.

College of the Neophytes. See *Sta. Maria dei Monti.*

Collegio Romano. The very extensive buildings of the Roman (Jesuit) College, founded in 1582 by Gregory XIII., were built from the designs of Ammanati. They include the sumptuous church of S. Ignazio (*q. v.*), and cover an area measuring about 310 ft. by nearly 470 ft., enclosing two great courts: one an oblong of about 75 ft. by 130 ft. laid out as a garden, with vaulted arcades on three sides, the other a square of rather more than 100 ft., surrounded by two stories of vaulted arcades each enclosed in an order of pilasters, Ionic and Corinthian respectively, the arcades giving access to the numerous class-rooms and other apartments of the college. The principal façade is flat and uninteresting. It has a length of more than 300 ft., its centre slightly projecting and of superior height, with two entrance doorways in the first story. The height is divided into two stages, each including two stories of windows enclosed in square panels, with an attic above the main cornice.

The Colosseum, or Flavian Amphitheatre, the greatest architectural monument of the Roman people, was begun by Vespasian on the site of an artificial lake belonging to Nero's Golden House, and dedicated by Titus in 80 A.D. Although ravaged in the XI cent. by Robert Guiscard, afterward a baronial fortress of the Frangipani, later a robber stronghold, and for centuries a public quarry, about half of the total mass still remains, including more than half of the massive exterior facing of travertine, with three tiers of arcades, originally eighty in each tier, adorned by engaged columns, Doric, Ionic, and Corinthian, and entablatures, and a fourth story with Corinthian pilasters, but with the intercolumniations closed except for rectangular windows in alternate spaces. The seats rose in tiers, the lowest of them elevated, for security, on a podium above the arena, and were subdivided by two precinctions or horizontal passages of communication, each with a wall at the back, and bordered above by a colonnaded gallery. Communication was further provided for by a number of radial stairways in the tiers of seats. Access to the auditorium was established by an elaborate system of passages and stairs disposed in the concentric vaults upon which the seats rested, and by one hundred and sixty doorways, called *comitoria*, from these into the auditorium. The seats were of marble, the most important constructive parts of the interior walls of travertine, and the less important parts and the vaults of brick, tufa, and concrete. In some of the lowest vaults were arranged dens for wild beasts, and quarters for gladiators and the various requirements for service. An elaborate system of substructions beneath the arena appears to indicate that it could be flooded for a naumachy, and there were efficient devices for the drainage of the entire interior, which have been in part restored. Corbels and pierced stones in the highest story mark the placing of the masts which supported the *vela* or awnings for protection from the sun. The dimensions are: axes of exterior ellipse, 617 ft. and 512 ft.; axes of arena, 282 ft. and 148 ft.; exterior height, 159 ft. The auditorium could hold eighty-seven thousand people.

Column of Marcus Aurelius, in the Piazza Colonna. It is an imitation of the Column of Trajan, a Roman-Doric column of white marble 87 ft. high, on a square pedestal of the height of 10 ft. The shaft, 13 ft. in diameter at the base and 12 ft. at the top, is formed of twenty-eight drums, and is sculptured with the Roman campaigns against the Marcomanni and kindred peoples, in high relief and in a somewhat hard and dry style, occupying a spiral of twenty turns. The rendering of rivers, buildings, etc., is like that

on the Column of Trajan. The present base is modern; the ancient one lies deeper. The existing inscription, ascribing the



Fig. 169. - Rome, Column of Marcus Aurelius.

monument to Antoninus Pius, is incorrect. In the interior of the shaft there is a winding stair leading to the top of the capital, on which stands, since 1589, a gilded bronze statue of St. Paul, 13 ft. high, placed there by Sixtus V. (*See Fig. 169.*)

COLUMN OF PHOCAS, conspicuous in the middle of the Forum Romanum, a fluted Corinthian column 54 ft. high, taken from some ancient building, and raised on a high base of brick with steps in pyramidal form on the four sides. An inscription shows that it was erected by the exarch Smaragdus in 608 A.D., in honor of the emperor Phocas, whose statue in gilt bronze formerly stood on the capital.

COLUMN OF TRAJAN, at the N.W. end of Trajan's Forum, between the Basilica Ulpia and the temple of Trajan. The column was erected in honor of the emperor, in 113 A.D., by the Roman Senate and people, and his ashes were placed in a sepulchral chamber beneath it. It is a gigantic Roman-Doric column resting on a square basement, ornamented on three sides with military trophies in relief, and having a door in the fourth side. On the angles stand imperial eagles, and the plinth and torus of the column are carved with wreaths of oak and ivy. The shaft consists of twenty-three blocks of marble, on which are sculptured, in a spiral of twenty-two turns about 3 ft. high, incidents of Trajan's two triumphant Dacian campaigns. The style is vigorous and realistic, and the execution careful. On the pedestal above the capital of the column stood a statue of Trajan; since 1587 its place has been occupied by a bronze figure of St. Peter. The total height is 147 ft.; height of shaft 87 ft.; diameter of shaft above base 11 ft.; at neck 10 ft.; height of basement 16½ ft.

The CURIA, the chief meeting-place of the Senate, is identified with practical certainty by Lanciani with the unimportant existing church of S. Adriano, which faces the Forum Romanum. Established by Tullus Hostilius, it was several times burned or pulled down and rebuilt, the last time in the reign of Diocletian. The ancient structure has been much modified since it was transformed into a church, the level of the floor having been raised about 20 ft., and the upper parts altered. The front is about 70 ft. wide, built of concrete faced with brick, and was originally coated with hard stucco. There were three large windows, now blocked up, in the façade over the ancient doorway. A drawing of the XVI cent., made before the level of the floor was changed, shows the façade with a hexastyle portico and a

pediment. The bronze doors, older than the restoration of Diocletian, were taken by Alexander VI. for the chief entrance to the nave of St. John Lateran, where they still are.

CURIA INNOCENZIANA. See *Palazzo di Monte Citorio.*

DOMUS AUREA, or Golden House of Nero. See *Thermæ of Titus.*

FLAVIAN AMPHITHEATRE. See *Colosseum.*

FONTANA DELL' ACQUA FELICE, conspicuous among the Roman fountains, erected in 1585–87, under Sixtus V. (whose name was Felice Peretti), from the designs of Domenico Fontana, the water being brought from springs in the Alban Mountains, a distance of about thirteen miles. Three great arched recesses are faced with an order of engaged Ionic columns, standing on high pedestals. The entablature is overloaded by an attic as high as the columns, bearing a long inscription, and surmounted by a group of sculpture covered by a pediment and flanked by great consoles. Obelisks rise from the angles. Under the central arch is a colossal statue of Moses striking the rock; the side arches contain figures of Aaron and Gideon. All these stand on pedestals of rockwork from which the water springs into a rectangular basin. Four lions of gray marble crouch in front of the pedestals, in the place of four ancient ones of black basalt which have been placed in the Egyptian Museum of the Vatican.

FONTANA PAOLINA, the most imposing of the architectural fountains of Rome. It is situated on the slope of the Janiculum, and was built in 1612 by Paul V., from the designs of Giovanni Fontana and Carlo or Stefano Maderno. It is a great rectangular building about 90 ft. long, faced with an order of Ionic columns of red granite on very high pedestals, surmounted by an overpowering attic bearing a long inscription. The central portion resembles an open three-arched loggia. Between the pedestals are five great rectangular niches from which the water springs into an immense basin, with a semicircular front, about 90 ft. broad. The water is brought from the lake of Bracciano, about twenty-five miles distant, by the ancient Roman aqueduct called the Aqua Alsietina, or Trajana, which was restored by Paul V. and given its new name of the Acqua Paola. (*See Fig. 170.*)



Fig. 170.—Rome Fontana Paolina.

FONTANA DI TREVI. This fountain is the best known and most admired in Rome, on account of its tradition and its bizarre picturesqueness. It gains great effect from its position in the middle of the façade of the Palazzo Conti. The water is brought from a point on the Via Collatina about eight miles from the city, by an ancient Roman aqueduct called the Aqua Virgo, which fell into ruin and was repaired by Leon Battista Alberti, under Nicholas V., about 1453. The fountain was built by Clement XII., in 1735, from the designs of Niccolo Salvi.

Its front, backed by the façade of the palace, has a breadth of about 68 ft., faced by a great order of four engaged Corinthian columns on high pedestals, and surmounted by a high attic bearing statues and an inscription. In the middle interval is a broad decorated niche with a statue of Neptune; standing statues also occupy the side intervals, with bas-reliefs in panels above. The same architecture is continued across the whole façade of the palace, nearly 150 ft., with Corinthian pilasters, and two stories of windows in the intervals. At the foot of the fountain is a mass of rockwork, over which the water dashes from openings between the central pedestals, with the horses and tritons of Neptune in violent action in the midst, and falls finally into a great basin about 110 ft. broad.

The FORUM OF AUGUSTUS, between the Forum of Nerva and that of Trajan, formed a step in the great imperial extension of the Forum Romanum. It contained the splendid Temple of Mars Ultor, and was surrounded by rich porticoes, lavishly decorated and adorned with many works of art. The remains of the enclosing wall are among the most impressive in Rome. It is in massive masonry of peperino, and extends to a height of 86 ft. above the present ground-level, and to a depth of 23 ft. below it. Four arched doorways are still visible in the wall. Near the Temple of Mars an arch which spanned the ancient street still stands, over the modern Via Bonella; it is built of great blocks of travertine, and is now called the Arco dei Pantani.

FORUM ROMANUM, an oblong area about 700 ft. long and 240 ft. to 120 ft. wide, extending from the Tabularium at the foot of the Capitoline Hill, to the Temple of Vesta and the Regia at the extremity of the Sacra Via, opposite the Temple of Antoninus and Faustina. This area constituted the centre of the primitive Roman state, and became the site of a long array of historic scenes. In the course of time it was surrounded, and even encroached upon, by many great buildings, and numerous statues and other works of art, besides inscriptions, were set up within it. On the N. E. side rose the Mamertine Prisons, the Curia, and the Basilica Æmilia; on the S. W. the Temple of Saturn, the great Basilica Julia, and the Temple of Castor and Pollux. The central open space formed the Comitium, where public meetings assembled. Adjoining this on the N. W. were the Rostra, constituting a platform for orators. The temples of Concord and Vespasian were later built in the Forum itself, in front of the Tabularium, and the Arch of Septimius Severus rose beside the Rostra. At the S. E. end the Temple of Julius Cæsar was placed before the Regia, and finally, in the VII cent., the Column of Phocas was built before the Rostra. As the city increased, the ancient Forum became too contracted



Fig. 171.—Rome. Forum Romanum.

for the public needs, and between the time of Cæsar and that of Trajan five magnificent new fora were formed, extending in a northerly direction from the Forum Romanum to the Campus Martius. During

the middle ages some of the buildings on the Forum were altered into churches or feudal strongholds ; others were used as

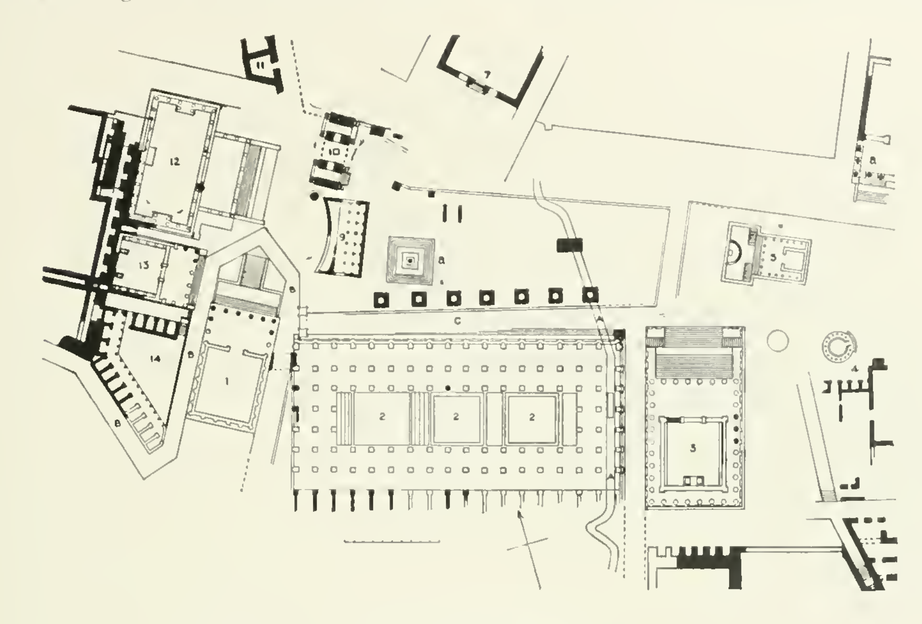


Fig. 172.—Rome, Forum Romanum.

A A, Cloaca Maxima. B B, Clivus Capitolinus. C, Via Sacra.

1. Temple of Saturn.
2. Basilica Julia.
3. Temple of Castor and Pollux.
4. Temple and House of Vesta.
5. Temple of Julius Cæsar.
6. Temple of Antoninus and Faustina.
7. Curia.
8. Column of Phocas.
9. Rostra.
10. Arch of Septimius Severus.
11. Mamertine Prisons.
12. Temple of Concord.
13. Temple of Vespasian.
14. Porticus Deorum Consentium.

quarries and their marble encrustation and sculptured ornament as raw material for the production of lime ; and the area became so much choked with rubbish and with earth washed from above that in places the ancient pavement was buried to a depth of 40 ft. Early in the present century excavations were begun and carried on in a desultory way until 1848. Work was resumed by the Italian Government in 1871, and energetically pushed to its present practical completion. (*See Figs. 171, 172.*)

The Forum of Nerva, between the Forum of Augustus and that of Vespasian, begun by Domitian, and dedicated by Nerva in 97 A.D., was also called the Forum Palladium from the temple of Minerva which constituted its chief ornament, but has now disappeared, and the Forum Transitorium because it formed a usual thoroughfare from the N. E. to the Forum Romanum. It was enclosed by a wall, which still stands, in one place adjoining the Forum of Augustus, to its full height of nearly 100 ft. On the opposite side, next the site of the temple, a lower piece of this wall is standing, and in front of it the two deeply buried Corinthian columns known as Le Colonnacce, whose broken entablatures project from the wall. Its frieze is sculptured with high reliefs of excellent style illustrating Minerva's care for women's work. The cornice is heavy and over-rich. In a niche in an attic between the two columns, stands a statue of Minerva. Between the columns is a flat-arched doorway which opened into the Forum of Vespasian. The entire interior

of the wall was ornamented thus with columns, entablature, and statues.

The FORUM OF TRAJAN, adjoining the Forum of Augustus on the N. W., was the largest and most splendid of the Roman fora, and was bordered on two sides by a double peristyle. Except the portion uncovered in the Piazza del Foro Trajano, half of which was included in the great Basilica Ulpia, its site is almost entirely covered with modern buildings. (See *Basilica Ulpia* and *Column of Trajan*, also *Fig. 173*.)



Fig. 173 —Rome, Forum of Trajan.

IL GESÙ (Jesuits' church). See *S. Spirito*.

HOUSE OF LIVIA. See *Palace of the Cæsars*.

HOUSE OF SALLUST, occupied in succession by Nero and several later emperors, until 400 A.D., and built in the valley at the foot of the cliff of the Quirinal Hill, against which a massive retaining-wall was constructed. Some of the walls still stand to a height of over 50 ft., though much has recently been destroyed for application to modern uses. There is an open court beneath the cliff, on two sides of which buildings rise to a height of four or five stories. In the middle of the buildings excavated there is a large circular domed hall, once encrusted with marble and ornamented with niches for statues. From beside this hall ascended a monumental staircase of marble, and another winds about one corner of the court to the top of the cliff, with landings at the several stories.

HOUSE OF THE VESTAL VIRGINS, or Atrium Vestæ, at the east end of the Roman Forum, behind the Temple of Vesta, of which only the circular foundation remains. It consisted of a group of constructions about a rectangular colonnaded court, measuring 79 ft. by 226 ft. The court was adorned with portrait-statues of some of the chief Vestals. In the east wing lies the *tablinum* or drawing-room, a large and beautiful room with a floor of *opus sectile* in inlaid patterns of porphyry, basalt, and marble, and walls originally encrusted with marble; from this room low doors with jambs and sills of red marble lead into the bedrooms of the six Vestals. Opposite the doors arched windows open on two side-courts. The excellent construction and decoration point to the time immediately after Nero's fire. From one of the rooms of this wing a restored stair of thirty-six steps leads to an upper story, which seems of later date; here are remains of a bath. There was still a third story. The south wing, dating from the reign of Hadrian, contains a number of small rooms, some of them fitted with grinding-mills and other utensils, and the dining and audience halls, richly adorned with marble and otherwise. The north wing is in a ruinous state, and the western angle is covered by Sta. Maria Liberatrice.

The LATERAN PALACE was in existence before the time of Constantine, but was enlarged by him, and subsequently by

successive popes, by whom it was occupied as the official residence up to the removal of the papal seat to Avignon. It was repeatedly destroyed by fire, and was sacked by the northern barbarians, but was as often rebuilt. The last rebuilding, under Sixtus V., at the end of the XVI cent., from the designs of Domenico Fontana, left the palace substantially as it exists to-day, covering much less ground than formerly. Its plan is approximately a square of 250 ft. with three similar façades of three stories, each with an arched doorway of rustic masonry in the centre, within a narrow portico of engaged Doric columns. The windows have in the lower story horizontal caps, in the others pediments alternately triangular and segmental. The stories are separated by pedestal courses, the angles groined, and the building is crowned by an enriched cornice. The apartments surround a square court, with two stories of open arcades, the arches enclosed within an order of pilasters, Doric and Ionic respectively, and a third story in which the order is of caryatids and the intervals are filled with square windows. The palace is now occupied as a museum of antiquities, and the rooms of the first and second stories contain a most interesting collection of ancient sculpture, sarcophagi, mosaics, and pictures. (See also *S. Giovanni in Laterano.*)

Liberian Basilica. See *Sta. Maria Maggiore.*

The Mamertine Prisons consist of two chambers one above the other, excavated out of the rock of the Capitoline Hill, and lined with massive stone masonry without mortar. The upper of these is about 50 ft. long and 22 ft. broad; the lower is smaller and lower; in both the courses of the masonry are overlapped so as to form a vaulted roof. The two chambers are connected by a circular opening in the floor of the upper. The upper chamber was probably entered originally in the same way, but is now reached by a flight of steps from the church of S. Giuseppe dei Falegnami overhead, leading down to a modern door. These prisons are among the oldest remains of Roman architecture, having been begun, according to Livy, by Ancus Martius, and enlarged by Servius Tullius, whence they were sometimes known as the Tullian prisons. St. Peter is believed to have been confined here under Nero, and the upper of the two chambers has been dedicated to him and known since the XV cent. as S. Pietro in Carcere (*q. v.*).

Mausoleum of Augustus, on the Campus Martius, a tomb for his family erected by the emperor in 28 B.C. It was a circular structure about 320 ft. in lower diameter, rising in three stages, with a number of separate vaulted burial-chambers in the interior. Originally the base of masonry, revetted with white marble, was surmounted by a mound of earth planted with cypresses, on the summit of which stood a bronze statue of Augustus. Before the mausoleum were set up bronze tablets, on which was inscribed a record of the emperor's deeds. The copy of this on the cella wall at Ancyra, is the famous Monumentum Ancyranum. Access to the remains of the mausoleum is through a private house in the Via dei Pontefici. There are visible important remains of the cylindrical substructions, in reticulated masonry of small blocks of tufa, with niches built of brick. A large part of the remains is incorporated in the Teatro Umberto I. Several of the burial-chambers, however, are still accessible.

Mausoleum of Hadrian. See *Castle of Sant' Angelo.*

Museo Capitolino. See *Capitol.*

Obelisk of the Iseum and Serapeum, discovered in 1882 among the ruins of that sanctuary, near the apse of Sta. Maria sopra Minerva. It is of Syene granite, 19½ ft. long and 3 ft. wide at the base, and is covered with hieroglyphs referring to Rameses II. It has been erected before

the railway station, as a monument to the soldiers who fell at Dagola, Abyssinia, in January, 1887.

Obelisk of the Lateran, of red granite, the oldest of the obelisks of Rome and the largest known. It was set up by Thothmes IV., in the xvi cent. B.C., before the Temple of the Sun at Heliopolis, Egypt, brought by ship by Constantine the Great, and erected by Constantius in the Circus Maximus. On this site it was found buried in the ground and broken in three pieces, and was re-erected by Fontana before the Lateran Palace in 1588, under Sixtus V. It is covered with hieroglyphs. The length of the shaft is 106 ft.; dimensions at the base, 9 ft. by 9⅝ ft.; total height, including Fontana's pedestal and cross, 149 ft.

Obelisk of Monte Cavallo. See *Obelisk of Sta. Maria Maggiore.*

Obelisk of the Piazza di Monte Citorio, brought by Augustus from Heliopolis at the same time with the obelisk of the Piazza del Popolo, 10 B.C. The foot still bears an inscription of dedication by Augustus to the Sun. The handsome hieroglyphs include the cartouche of Psammetichus I. In antiquity, the obelisk was made to serve as the needle of a sun-dial. It fell and became buried, and was rediscovered in 1436. Benedict XIV. caused it to be excavated, and Pius VI. set it up in its present position in 1792. The height of the shaft is 70½ ft.

Obelisk of the Piazza del Popolo, a monolith 78½ ft. high (now broken), which stood originally before the great temple at Heliopolis, Egypt. It was brought to Rome and erected by Augustus in 10 B.C. on the spina of the Circus Maximus. It fell and was broken into two pieces, which were set up in their present position by Fontana, under Sixtus V., in 1587. The obelisk is of granite, and bears the hieroglyphs of Seti Menephptah II., son of Sesostris (1195 B.C.), and Rameses III. It stands on a pedestal in the middle of the square, with lionesses at the four angles spouting water into basins. The total height, including the cross on the apex, is 118 ft.

Obelisk of Sta. Maria Maggiore, erected under Sixtus V. by Fontana, in 1587. It is of red granite, without hieroglyphs, and was found broken in several pieces. It is one of a pair which stood before the portal of the Mausoleum of Augustus, and is believed to have been brought from Egypt by Claudius. The height of the shaft, without the base, is 48½ ft. The companion obelisk was erected on Monte Cavallo in 1786, by Pius VI. It is slightly shorter than its fellow.

Obelisk of the Trinità de' Monti, of red granite, with hieroglyphs. It was taken from the Gardens of Sallust in 1789, under Pius VI., and erected where it now stands. The height of the shaft is 48 ft.

Obelisk of the Vatican, or of the Piazza di San Pietro, erected on its present site by the architect Fontana, under Sixtus V., in 1586. It is a monolith of red granite without hieroglyphs, and was brought from Heliopolis under Caligula, and set up later in the Circus of Nero. The height of the shaft is 82½ ft.; the side of the base measures 8 ft. 10 in. The total height, with the modern pedestal and cross, is 132 ft.

Oratory of St. Clement. See *S. Clemente.*

Palace. See also *Palazzo.*

Palace of the Cæsars, which in its final form occupied both summits of the Palatine Hill and the depression between them. The Palatine was the centre of the primitive city and the home of the old kings. Augustus early established his residence, with his celebrated library and a temple of Apollo, on the southwest slope of the Palatine. Tiberius built himself a palace toward the north, and Nero's Golden House extended from the Palatine to the Esquiline. The Flavian emperors built their additions adjoining the

House of Augustus, between the two summits of the Palatine. The stadium, east of the House of Augustus, was built by Domitian and Hadrian, and restored by Septimius Severus, who added the Septizonium, a remarkable structure, though probably never, as held by some, seven stories high, at the S. W. extremity of the hill. This stood in part until the XVI cent., when it was torn down by Sixtus V. Odoacer and Theodoric occupied the palace, but from the X cent. its ruins began to be invaded by monasteries and private establishments. The earliest important excavations took place in 1726, and since then work has been carried on with important results by the Russian Government, Napoleon III., and the Italian monarchy. Among the most notable remains disclosed are: a part of the wall of primitive Rome in large blocks of tufa, laid without mortar, alternately in headers and stretchers; the substructions of the Temple of Jupiter Victor, dedicated in fulfilment of a vow by Fabius Maximus; the House of Livia, with exceedingly fine mural paintings of mythological subjects; the great throne-room of the Flavian palace, with the tribune for the throne and niches for statues; and the *pædagogium*, or school for imperial slaves, whose walls and piers are covered with sgraffiti scrawled by the pupils. The walls and arches remaining are in part of a highly imposing character.

Palace of the Conservatori. See *Capitol*.

Palace of the Lateran. See *Lateran*.

Palace of the Vatican. See *Vatican*.

Palazzo Altemps, a spacious and interesting palace of which the date and the architect are not known, though its design is attributed in part to Martino Lunghi, and in part to Perruzzi. It covers a space measuring about 140 ft. in width and 215 ft. in depth, with façades on the front and rear of no great interest, from the doorways of which straight corridors lead to open-vaulted arcades at the two ends of a large court, about 56 ft. wide and 85 ft. long, which is the most interesting portion of the palace. It has two stories of arcades, each faced with an order of pilasters, Doric below and Ionic above, but closed on two sides with windows, those of the second story being raised on pedestals connected by a balustrade, and the spandrels filled with decoration in relief. The third story, somewhat out of keeping with those below, has ill-proportioned windows in square panels.

Palazzo Altieri, one of the largest of the Roman palaces, built in 1670 for Cardinal Altieri, from the designs of Giovanni Antonio Rossi, and covering an area about 210 ft. by 350 ft. Its plan includes two great courts, of which the principal, measuring about 70 ft. by 100 ft., is entered from three streets and surrounded by vaulted arcades faced with an order of grouped pilasters. The other court, measuring about 80 ft. by 150 ft., is bordered on one side by extensive vaulted stables. The huge façades are in three stories of pedimented windows, with occasional quoined piers and a heavy bracketed cornice; that on the Via del Plebiscito is raised in the middle into a two-storied attic.

Palazzo Barberini, one of the most extensive and magnificent of Roman palaces, begun about 1625 for the cardinal Francesco Barberini, from the designs of Carlo Maderno, continued under Borromini, and finished in 1630 under Bernini. The estate of which it forms a part covers, with its dependencies and gardens, an area of something less than ten acres of ground. The palace itself is in plan about 280 ft. by 200 ft., with a raised centre and two projecting wings on its principal front. Between these wings the façade consists of three stories with three arcaded orders of pilasters, Doric, Ionic, and Corinthian, in seven bays, which in the first story are occu-

pied by the open arches of a fine entrance loggia. The treatment of the upper stories is similar to that of the first, the orders being raised on balustrade courses and the arched openings filled with windows. On the wings and flanks of the building the principal lines of the orders are continued, the wall of the second story being divided into panels by flat pilaster-strips. An enriched cornicione is carried around the whole building. The plan is extremely elegant, ingenious, and effective. A considerable proportion of the entrance story is given to an imposing vestibule, divided by rows of piers into square vaulted bays, and conducting on three sides to staircases, of which the central one, a double flight in an elliptical hall whose longer diameter is about 50 ft., leads to a fine terrace at the rear of the palace, on a level with the principal floor and with the gardens. To these a gentle inclined plane also conducts, opening from the lower hall between the two flights of the oval staircase; its long perspective is terminated by a monumental fountain surmounted by a statue of Apollo, at the distance of 150 yards from the palace. Another staircase, in a smaller oval at one end of the vestibule, is a continuous spiral to the top of the building, with a continuous ramping order of coupled Doric columns on a balustrade following the spiral, a design manifestly inspired by the celebrated staircase of Bramante in the tower of the Belvedere of the Vatican. The apartments of the principal floor, arranged with perfect symmetry, are of great splendor. The great salon in the centre of the principal front is some 80 ft. long, and nearly 50 ft wide, with a ceiling covered by a fresco of Pietro da Cortona. Behind it is a graceful elliptical vestibule over the great staircase, opening on the terrace and gardens. A suite of rooms in one wing of the palace contains a fine collection of pictures, and another on the upper floor is given to the famous Barberini Library.

Palazzo Boadile, a xvi cent. palace ascribed to Giacomo della Porta. It has a simple façade in three stages of square-headed openings, the first with a high doorway not in the centre of the front; the low segmental-arched openings on each side are an unusual feature in the Renaissance, if they are original. The second stage consists of a range of fine windows, on a balustrade course, with horizontal caps supported on consoles, also with a mezzanine story above. The stages are separated by string courses, the angles quoined, and the whole crowned by a strongly projecting enriched cornice. The interior has a court of which three sides are unfinished, the fourth side having two stories of arcades included in orders, respectively Doric and Ionic.

Palazzo Borghese, perhaps the most extensive and best known of the Roman palaces, begun in 1590 by Cardinal Dezzo, a Spaniard, under the architect Martino Lunghi the elder. A few years after it came into possession of Cardinal Borghese, who, becoming Pope Paul V., gave the palace to his brothers, by whom it was enlarged from the designs of Flaminio Ponzio. Its plan is very irregular. The principal front is about 130 ft. long, on the Via Fontanella; that on the Piazza, originally about 200 ft., was lengthened by the extension of the palace to the Via Ripetta to not less that 400 ft. There is also a short frontage on the last-named street. The exterior is of little interest; the two principal façades are in three stages, each including a principal story and a mezzanine, with a central doorway under a Doric portico, and an Ionic portico enclosing the window above, the angles of the fronts emphasized by quoins and the façades crowned by an enriched and effective cornicione, with a broad frieze, in which are the windows of the upper mezzanine. The small front on the Ripetta (that portion of the building having only the height of the first stage of

the greater fronts) is of more elaborate architecture, with a portico of coupled columns across the whole front, and a loggia above. The interior contains a vast number of rooms, large and small, of which the greater number surround a noble court measuring 68 ft. by 96 ft., enclosed by two stories of vaulted arcades, the arches springing from blocks of entablature over coupled Doric and Ionic columns. On three sides of the court these arcades carry a third story, with windows; on the fourth side the second arcade is open both to front and rear, and gives a view of spacious gardens beyond, with three fountains on the enclosing wall. A long suite of apartments on the ground-floor are occupied by what is perhaps the largest and finest private collection of pictures in Europe. (*See Fig. 174.*)

PALAZZO BUONCOMPAGNI (or Sora), a large palace built for Cardinal Fieschi at the beginning of the XVI cent., of which the design is, though with some uncertainty, attributed to Bramante. Its plan is nearly a square of 138 ft., enclosing an oblong court about 30 ft. by 60 ft., surrounded by broad arcaded corridors. It has an imposing façade in three stages, the first with a central arched doorway enclosed within an engaged portico of Doric pilasters with entablature, and flanked by five windows of similar design on each side. The windows of the second story, also round-arched, are enclosed within Corinthian pilasters carrying entablatures and pediments alternately triangular and segmental. The third stage has a range of square-headed windows with horizontal caps, and small square windows close under the cornice. The extremities of the façade are marked by pavilions of slight projection with an order of flat pilasters on each stage, Doric, Ionic, and Corinthian respectively, and these pavilions are carried above the flat roof as small square towers with angle-quoins and a single plain square window in each.



Fig. 174.—Rome, Pal. Borghese.

PALAZZO CAFFARELLI. See *Palazzo Vidoni.*

PALAZZO CHIGI, situated on the Piazza Colonna, and built about 1562 from the designs of Giacomo della Porta. It has a simple façade in three stages, of which the first is a low basement having windows with horizontal caps; the second has a range of high windows with pedimented caps alternately triangular and segmental, and a mezzanine of square openings above. The main cornice is over the mezzanine, the fourth story being treated as an attic.

PALAZZO CICCIAPORCI. A noticeable palace, built about 1520 from the designs of Giulio Romano. Its façade, about 112 ft. in length, is in three stages, of which the first is of rustic masonry with a high central arched doorway and three low square openings on each side for shops, covered by horizontal arches, and with a bearing-arch above like that of the doorway, enclosing small mezzanine windows. The wall of the second and third stories is divided into square panels, those of the

second story occupying the intervals of a badly developed order of pilasters, and containing square windows with horizontal caps. Over the third story is a projecting cornice with modillions, and above, an attic consisting of an open colonnade divided by flat pilasters into groups, each of four openings.

Palazzo della Consultà. This palace, now occupied as the Ministry for Foreign Affairs, was built about 1730 for Clement XII., from the designs of Ferdinando Fuga. It has a trapezoidal plan of much ingenuity, with a principal frontage of about 220 ft., and a depth of about 230 ft. The principal feature is a rectangular court 76 ft. by 82 ft. with corridors leading from the centre of each of its sides to the four façades. The architecture of the court follows that of the façades, the wall being divided into two high stages, each with a principal and mezzanine story, and crowned by a cornice and frieze with triglyphs, with a balcony and low attic above. The front is of vigorous though somewhat barocco design, divided into three vertical compartments with a doorway in each, that in the centre flanked by detached Doric columns supporting blocks of entablature, and a broken pediment with sitting figures. This front is in two stages: the lower includes a high basement story and mezzanine; the upper has a range of high windows with consoles carrying segmental pediments, the windows of both stories being enclosed in square panels. The angles of the front and the limits of the central division are marked in the first story by rustic quoins, in the second by Corinthian pilasters, and the whole is crowned by a heavy projecting cornice on consoles, between which are square windows.

Palazzo Corsini. This great palace, of which the original design has been attributed to Bramante, was built by the family of Riario, presumably in the xvi cent., and bought in 1732 by Cardinal Corsini, a nephew of Clement XII., who made extensive changes and additions to it from the designs of Ferdinando Fuga. Its plan is a rectangle measuring about 340 ft. on the street, and having a depth of 156 ft. Its long façade is monotonous and uninteresting. Three great arches in the centre open into a vaulted vestibule 44 ft. wide, leading to the great double staircase occupying the two long sides of a hall 44 ft. by 80 ft., on each side of which is a square court 65 ft. by 80 ft., with vaulted arcades on front and rear, the latter open and continued along the whole length of the palace, interrupted only by the grand staircase in the centre, and opening on a great rectangular court, beyond which are extensive gardens running up the slope of the Janiculum. Many of the apartments of the principal story are occupied by a large and fine collection of pictures.

Palazzo Costa. This xvi cent. palace, probably from Peruzzi's designs, has a fine façade about 63 ft. long, in two principal stages and an attic. The first story is of coursed masonry vigorously rusticated, with a central square door and broad square openings for two shop-fronts on each side, combined with a row of mezzanine windows. The second story has an order of grouped Doric pilasters with triglyphs in the frieze and pedimented windows in the intervals on a pedestal course. The high attic is divided by pilasters, the intervals panelled, with square plain windows.

Palazzo Doria Pamfili, one of the largest and most magnificent of the Roman palaces, covering an area somewhat more than 200 ft. wide and 330 ft. deep, with a front on the Corso, another on the Piazza del Collegio Romano, and a third on the Piazza di Venezia. From the Corso one enters directly a spacious and elegant court measuring about 75 ft. by 85 ft., surrounded by two stories of vaulted arcades with Doric and Ionic columns. From the side the entrance is by a curi-

ously vaulted vestibule, designed by Borromini or by Bernini, with semicircular ends, from which a broad staircase ascends to the upper floors. The interior contains many fine apartments sumptuously adorned, of which an extensive suite is occupied by one of the largest private collections of pictures in Rome. The façades, of somewhat monotonous architecture, are the work of Valvasori and Pietro da Cortona. The spacious stables, in three vaulted aisles supported by Tuscan columns, deserve notice.

PALAZZO FARNESE. This famous palace was begun in 1530 by the cardinal Alexander Farnese, afterward Paul III., from the designs of Antonio Sangallo the younger. It has a perfectly regular rectangular plan, measuring 187 ft. in front, and 245 ft. deep. Its principal façade is characterized by a noble simplicity of design. The long front is unbroken by any vertical divisions or by any grouping of windows. The unusual height of 96 ft. is divided into three stages, of which the first has a central arched doorway in rustic work, flanked by six windows on each side with horizontal caps, and is crowned by a strongly profiled cornice. The second story has a range of rectangular windows on a balustrade course, flanked by Corinthian three-quarter columns with entablature and pediments, the three central ones grouped together. The stories are separated by friezes and cornices bearing balustrade-courses. The third story presents an unbroken range of thirteen round-arched windows, with Ionic three-quarter columns carrying broken pediments. The angles of the front are emphasized by quoins, and the façade is crowned by a magnificent cornicione. This great composition is one of the most celebrated and most admired in Italy, and not without justice, for though its faults are obvious — the crowding of parts at the centre and at the angles, the flatness of the central motive in the second story, and the surprising ugliness of the windows in the third—yet the simplicity and breadth of the design, the grandeur of its scale, the noble spaces of wall above the windows, and the unrivalled cornice, are sufficient to produce an effect of majesty which scarcely belongs in the same degree to any other example of domestic architecture. The other elevations follow the lines of the principal front, except that in the rear the central portion, about 68 ft. broad, is given in each story to an arcade of three arches, faced with orders of columns, Doric and Ionic, and Corinthian pilasters. With this magnificent exterior, the interior is fully



Fig. 175.—Rome, Pal. Farnese, Loggia.

in keeping. From the central doorway of the front, a three-aisled vestibule 37 ft. wide and 43 ft. long, divided by two lines of Doric columns on pedestals—the

central aisle covered with a panelled and richly decorated barrel-vault, the side-walls divided by half-columns with niches between—leads to an interior court 88 ft. square, surrounded by two stories of Roman arcades—of which those of the first story are open on all sides, and those of the second on two—under a Doric order on the first story, and Ionic on the second. The third story wall is faced with a corresponding order of grouped Corinthian pilasters, the intervals occupied by beautifully composed windows with pediments. All the details of this court are of the greatest elegance. Many of the apartments of the palace, the smaller as well as the larger, are remarkable for the richness of their panelled ceilings, and the gallery, a fine room about 21 ft. wide and 65 ft. long, is decorated with a series of frescoes of mythological subjects by Annibale Caracci. The work begun by Sangallo, and carried forward by him for more than fifteen years, he was not permitted to finish. In 1546 the exterior walls were finished up to the cornice, and two stories of the court were nearly complete. But the pope resolved to establish a competition of architects for the continuance of the work. Projects were accordingly received from Sangallo, Michael Angelo, Vasari, Sebastian del Piombo, and Perino del Vaga. The work was given to Michael Angelo, who added the great cornice, and whose connection with it continued until his death; although it has been maintained that the credit for the completion of the palace belongs rather to Vignola, who certainly came into control after Michael Angelo's death. A part of the façade in the rear was the work of Giacomo della Porta. (*See Fig. 175.*)

Palazzo Farnesina, or Villa Farnesina. This famous palace, one of the most interesting works of Baldassare Peruzzi, has rather the character of a villa, being of comparatively small dimensions, and standing detached in spacious pleasure-grounds on the river bank. It was built in 1506 as the residence of the renowned banker Agostino Chigi, the munificent patron of letters and art, and friend of Leo X. Its plan is a rectangle of about 117 ft. by 88 ft., the principal front having a recessed centre between two projecting wings. It is in two stages, each with an order of Doric pilasters and plain entablature raised on pedestal courses. In the first story the five intercolumniations of the central portion of the front were once an open arcaded loggia, but are now closed by glazed sashes. In the projecting wings and in the second story the bays have each a square-headed window with moulded architraves and horizontal cap. The upper order has a broad frieze with small windows, between which are reliefs of a playful character, and an enriched cornice. The chief fame of this palace attaches to the interior, which contains several large and fine apartments of which the decoration is of the most remarkable character. The principal rooms were adorned with frescoes by Raphael, Giulio Romano, Sebastiano del Piombo, Daniele da Volterra, and Annibale Caracci. The long entrance-hall, formerly an open loggia, bears on the lunettes of the ceiling a series of paintings designed by Raphael, and executed for the most part by his pupils, representing the story of Cupid and Psyche, and the long room opening from the end of the entrance-hall contains one of the most celebrated of Raphael's frescoes, the Triumph of Galatea. The second story has two great rooms painted by Giulio Romano, Sodoma, and Peruzzi.

Palazzo di Firenze, formerly the official residence of the Tuscan ambassador, built by Pope Julius III. upon the basis of an older structure about 1550, from designs attributed, though without certainty, to Vignola. Its plan is irregular, with three frontages, of which the principal, though the shortest, is about 112 ft. long. There is an interior court some 48

ft. by 65 ft., with vaulted arcades on three sides, composed of round arches supported on columns with composite capitals, and a large enclosed garden, toward which the buildings present a fine façade three stories high, with the centre of the first two occupied in each case by an open loggia with three arches under an order of three-quarter columns, Ionic below and Corinthian above, the first loggia vaulted, the second with a flat ceiling panelled and richly decorated ; the walls also decorated with much elaborateness.

Palazzo Giraud. It was built about 1506 from the designs of Bramante, for the Cardinale da Corneto. Its plan is a rectangle of some 135 ft. on the front and 180 ft. deep, enclosing a large square court surrounded on the first story by vaulted arcades. The façade is of rustic masonry in three stages, the first a plain basement with a weak central doorway of later design and three small square windows on either side. The two upper stories are each faced with an order of wide-spaced coupled Corinthian pilasters, occupied in the second story by round-arched windows with pilasters and horizontal cap, and in the third story by two ranges of insignificant windows.

Palazzo Lante, an interesting palace of which the date and the architect are uncertain, but which is believed to have been built by Leo X. early in the XVI cent., for his brother Giuliano de' Medici, perhaps from the designs of Bramante, and carried out by Sansovino. It has a simple but fine façade about 120 ft. long, in three stages separated by slight moulded cornices. The openings are alike throughout, except for variations in detail, and all are square-headed, with flat caps and consoles, except that in the third stage is an upper half-story of square windows framed in simple mouldings. On each side are three windows of similar design to the doorway, with basement windows under them. Under the roof is a rich and graceful cornice above a sculptured frieze. The interior has a fine oblong court, approached through an arched vestibule whose walls are divided by niches and panels, and surrounded on three sides by two stories of vaulted arcades, the arches springing from Doric and Ionic columns. At one end is a monumental fountain surmounted by a group of antique sculpture.

Palazzo Linotte, sometimes called the little Farnesina, a small but interesting palace, whose history is unknown, and whose design has been conjecturally ascribed to Bramante, to Michael Angelo, and with more probability to Baldassare Peruzzi. The façade is in three stages, the first of coursed rustic masonry with a round-arched central doorway and windows. In the two upper stories the windows are square-headed, those of the second story having pedimented caps alternately triangular and segmental. The fleur-de-lys of the Farnese family ornaments the belts between the stories, and the window sills are continued as string courses across the front. The angles of the two upper stories are quoined, and the front is crowned by a good cornice with modillions and dentils. In the interior a vestibule with an order of pilasters on the side walls and a panelled barrel-vault leads to a small but elegant court, open toward the rear above the first story, of which the three stories are treated in a style of great elegance with open loggie, arcaded below and colonnaded above.

Palazzo Massimi, the name of two palaces built during the first half of the XVI cent., by the marquis Domenico Massimi, for his two sons, on the site where his ancestor Pietro Massimi had, in 1455, established the first Roman printing-press. The buildings were begun by Baldassare Peruzzi after the sack of Rome in 1527 by the Constable de Bourbon, and were the last important work of that architect, who died in 1536, before its completion. The façades fitted the curving line of a nar-

row street, and have together a length of about 165 ft., of which about 90 ft. belongs to the larger palace. Of this front, which is of rustic work, most of the lower story is given to an open vestibule behind an order of Doric columns, continued at the ends in pilasters. Above the entablature of this order is a balustrade course bearing a range of rectangular windows with horizontal caps supported on consoles. Two stories of small oblong windows follow, and then an enriched cornicecione. The interior is interesting from the ingenuity of its plan, and from the extreme elegance and beauty of its details and decoration. From the curved vestibule of the front, a masterpiece of decorative design, a straight vaulted corridor leads to an oblong court about 30 ft. by 35 ft., with a vaulted colonnade at each end, and the order carried around the sides by pilasters, over which is a second story with an order of Ionic pilasters with a decorated frieze, and windows in the intervals. From the front colonnade a stairway ascends to the principal story, where at the end of the court is an open loggia, with an Ionic colonnade. The principal apartments of this floor are interesting and valuable examples of the most refined and artistic Renaissance decoration; the doors of carved oak, framed in white marble, the ceilings of oak and pine, with carved panels decorated with gold and color, the walls adorned with broad friezes of varied character, are characteristic of the best period of the Renaissance. The smaller palace partakes of the general character of the larger, but with less richness and elaborateness of ornament; its plain façade continues the features of the larger palace, but without the order in the lower story, the rustication, or the enriched cornice. The court has a picturesque loggia at the farther end.

Palazzo Mattei di Giove, a late Renaissance palace built in 1621 for the duke Asdrubale Mattei, from the designs of Carlo Maderno, and interesting mainly from the extent and character of its sculptural adornments. It has two façades of nearly equal length (about 130 ft.), of which, however, one is extended by accessory buildings. From each of these a corridor leads to the central court, measuring about 40 ft. by 50 ft., of which one end is bounded by a three-arched vaulted loggia, repeated on the second story, and with a third story of blind arches, the arches in each story being included within an order of pilasters. At the opposite end of the court, this architecture is repeated in a single story, over which is a terrace, and through the central arch of which access is had to a second court, larger but plainer than the first. Statues stand on pedestals against the pilasters of the first court, and the side walls, which have little relation to the ends, are hung like a museum with a multitude of ancient bas-reliefs, medallions, busts, and sculptured ornaments between their many windows. The vestibule, loggie, and staircase are utilized in like manner. The principal rooms are painted with frescoes, and the staircase landings are covered by low domes with stucco decorations.

Palazzo Mattei Paganica. Ludovico Mattei built this palace in the middle of the XVI century. Its design has, though with some uncertainty, been attributed to Vignola. It has a regular plan, covering a square of about 90 ft., with a straight corridor leading from the centre of the façade to a rectangular court, entered under a vaulted arcade at the end, over which is an open loggia with a flat panelled ceiling richly decorated. From the farther end of the court opens on each side, like a transept arm, a vaulted loggia. The plain façade, with four ranges of square-headed openings and a central door, has quoined angles and an enriched frieze and cornice.

Palazzo di Monte Cavallo, or del Quirinale, formerly a summer palace of the popes, on the Quirinal Hill, now the official residence of the king of Italy. The buildings are of immense extent, and though the work of successive periods, the original summer palace of 1540 having been enlarged repeatedly by various popes and under various architects, among whom were Domenico Fontana, Carlo Maderno, Lorenzo Bernini, and Ferdinando Fuga, they preserve a substantial symmetry of plan and uniformity of design. The plan includes a rectangular court 140 ft. wide and 325 ft. long, enclosed on three sides by a vaulted arcade in the intervals of an order of Doric pilasters, above which is a single story of square windows with horizontal caps. At the end of the great court a recessed portico of five arches, from which opens a spiral oval staircase with a ramping order of columns, gives access to the apartments of state, which are numerous and well-appointed, though of no special architectural interest. They are also approached at the other extremity of the court by an imposing double staircase, built by Flaminio Ponzio, which leads to the richly decorated Sala Regia, a hall 150 ft. long, and the adjoining Capella Paolina, all additions of Paul V. The exterior architecture is simple and regular, though somewhat ineffective. The principal front on the Villa Pia is in two stages with an arched doorway enclosed in two rustic pilasters, the principal story presenting a long range of windows with pedimented caps, on a balustrade course. Above the original cornice two additional stories have been built, quite out of keeping with those below. Behind the palace are extensive gardens.

Palazzo di Monte Citorio, or Curia Innocenziana, a large palace begun in 1650, by Prince Ludovisi, from the designs of Bernini, and bought in 1697, after a long discontinuance of the works, by Innocent XII., who finished it under the direction of Carlo Fontana, for the use of the higher courts of law, and gave it his name. The plan is chiefly interesting from its central feature, a spacious vaulted vestibule divided into three aisles, and leading directly to a fine court 118 ft. wide and 130 ft. deep, terminating in a great semicircle, around which is carried a broad corridor. This court has been, since the occupation of Rome as the capital of the kingdom, the seat of the Italian Parliament, a provisional building of wood having been constructed in 1871 filling its semicircular portion. The long façade is of brick in five vertical divisions, of which the central one has a portico of four Doric three-quarter columns with entablature and balustrade, the three intervals enclosing doorways. On each side of the central division the line of the front bends backward. This front is in three stages. A strongly moulded cornice separates the first and second stages, above which the vertical divisions are marked by Corinthian pilasters carrying a full Corinthian entablature with small windows in the frieze.

Palazzo Muti-Papazzurri. Of the two palaces known by this name the larger, situated in the Piazza della Pilotta, was built near the end of the XVII cent. from the designs of Mattia de' Rossi, a pupil of Borromini. It has an irregular plan covering an area about 85 ft. by 160 ft. The front shows two narrow advancing wings embracing a deep court, which is closed in the lower story by a wall, where the arched entrance is covered by an engaged portico of four Tuscan columns, flanked by pilasters, with a balustrade adorned with statues. The simple façades have three rows of windows with caps, pedimented below and plain above, and a bracketed cornice with balustrade and statues. The court, level with the street, is lined with stone benches, and raised at the rear into a platform with a balustrade and steps leading to a fountain at the back, and a door on

either hand. A vaulted transverse corridor separates the plan into two portions, of which the rear portion contains the great staircase and extensive stables.

Palazzo Negroni, a large palace of simple design, built in 1564 from the designs of Bartolommeo Ammanati. Its plan is regular and forms a square of some 112 ft., with a central court about 36 ft. square, surrounded by arcades, and a wing in the rear. The façade, with quoined angles and a light modillioned cornice, is in three stages, the lowest having a central doorway with moulded architraves and a horizontal cap with consoles, and four windows of similar design on each side. The second stage has a range of similar windows on a balustrade-course, with a mezzanine story of square windows above; the third has simple rectangular windows with moulded architraves.

Palazzo Niccolini, a small palace built in 1526, from the designs of Sansovino, with a skilfully arranged irregular plan, its frontage being inconsiderable, but with a depth of 185 ft., and a breadth at the rear of about 80 ft. A long corridor leads from the centre of the front to a very elegant square court with a broad vaulted loggia at each end, faced with an order of Doric pilasters enclosing arches, the order being carried round the sides of the court, and the wall above having an Ionic order of pilasters with two stories of windows in the intervals, and a broad decorated frieze. Beyond this is a larger court of simpler architecture, bordered on one side by the stables, with a niche and fountain occupying the centre of another side. The sober façade, which lacks its cornice, is in three stages, separated by strong balustrade-courses, the lowest having a central arched doorway of rustic masonry, between two broad shop-windows covered by horizontal arches. The windows above are square-headed, the middle stage including the *piano nobile* and a low mezzanine.

Palazzo Odescalchi, a large palace built from the designs of Bernini, about 1660, with a great façade in three divisions, of which the central one has a basement story with two arched doorways flanked by detached Doric columns, with entablature and balustrade. Above this story is a cornice on which is an order of Corinthian pilasters, enclosing two stories of windows and supporting a full entablature, the cornice projecting on consoles with enriched panels between, and a balustrade above. On each side of the central mass is a short prolongation of it, in which the windows of the three stories are continued, but the wall is of rustic work without the order.

Palazzo Ossoli, a small palace built during the first half of the XVI cent., from the designs of Peruzzi, enclosing an interior court about 25 ft. square with a vaulted arcade on one side. Its façade is in three stages, the first of rustic work, with a narrow central arched doorway and two square windows on each side, with moulded architraves and consoles supporting horizontal caps. The two upper stories have each an order of pilasters, Doric and Ionic respectively, on high balustrade-courses, the intervals having each a square window, of which those of the second story have horizontal caps.

Palazzo Palma, a Renaissance palace built in the XVI cent., from the designs of Antonio Sangallo the younger, and highly praised by Vasari. Its plan is a rectangle of about 85 ft. by 114 ft., with two fronts, of which the principal has three stories of simple square-headed windows with moulded architraves and horizontal caps of small projection. Under the second story is a belt ornamented with a guilloche, under the third a dentil cornice which is repeated on a large scale at the eaves. The angles are quoined, and in the centre is an arched entrance doorway, enclosed by an engaged Doric order of columns on high pedestals. The interior contains a court about 33 ft. square, with two superimposed

orders of pilasters, a low Doric order enclosing arches in the first story, and a high Ionic with square windows above.

Palazzo Pamfili, a conspicuous palace built about 1650 by Innocent X., from the designs of Girolamo Rainaldi, with a façade on the Piazza Navona of nearly 250 ft., and depth of 120 ft. The façade is in the worst style of the Renaissance, three stories high, the ornate central division carried up with an additional story treated as an open loggia. The plan has some interesting features. A square vestibule, divided by two lines of piers into nine vaulted bays, leads to an interior court about 50 ft. square, separated from another somewhat larger by an open loggia of six square bays, vaulted like those of the vestibule.

Palazzo Rospigliosi, on the Quirinal, a large and interesting palace, with much picturesqueness in its disposition, but not especially remarkable for its design. The palace itself encloses on two sides a square court, opening on a third side to the street, and having on its fourth a long garden raised some 15 ft. above the street, at one end of which next to the street is a casino with three rooms, of which that in the centre has on its ceiling the Aurora of Guido. The other two rooms contain notable pictures by Domenichino, Vandyke, Rubens, Titian, and other masters. The palace was built in 1603 for Cardinal Scipio Borghese, from the designs of Flaminio Ponzio. It was enlarged a few years later under Carlo Maderno, for Cardinal Mazarin.

Palazzo Ruspoli. This is one of the largest of the private palaces of Rome, built in 1556 from the designs of Ammanati. It has an unbroken front about 250 ft. long, of great simplicity, with quoined angles and an enriched cornice. It is in three stories, the first having an arched entrance doorway of rustic masonry with a horizontal cornice, dividing a range of square windows with horizontal caps, with square panels below. The second, or principal story, has nineteen windows on a simple string-course, with triangular pediments; the third story windows are plain. The interior is remarkable chiefly for its fine staircase of white marble, built by Martino Lunghi the younger.

Palazzo Sacchetti, a large palace of simple architecture and elegant detail, built about the beginning of the XVI cent., by Antonio Sangallo the younger, as his own residence. Its plan is nearly a square of 110 ft., enclosing a large square court surrounded by a single story of arcades vaulted on two sides, enclosed in Doric pilasters, and with a large terrace-garden in the rear, at the back of which is a small garden-house with a loggia overlooking the Tiber. The façade on the Strada Giulia is in three stages; it has a central square doorway with moulded architraves and simple horizontal caps on consoles, and three ranges of windows of nearly similar design, the second stage having also a mezzanine story with square windows. The stories are divided by broad friezes without ornament, and the front is crowned by an enriched cornice.

Palazzo Salviati, an extensive palace, Florentine in style, built about 1580 by the cardinal of that name, from the designs of Baccio Bigio, in preparation for a visit of King Henry III. of France. The plan, which measures about 190 ft. by 330 ft., has some interesting features. It includes three courts, the largest of which is square, surrounded on three sides by vaulted arcades, the fourth side open to the gardens; the other two are narrow and long with semicircular ends. Of these one is in two levels, following the slope of the Janiculum, with a double semicircular staircase connecting the two, a fountain between, and the vista prolonged by an artificial cascade. The façade is in two stages and five vertical divisions. The first stage is of rustic work of unusual and complicated design, with square openings in

the centre and arched in the wings; and a mezzanine story above. The second stage has a range of tall windows with horizontal caps on a balustrade-course, and above them are low windows, all square-headed. The vertical divisions are marked by angle-quoins, and the front is crowned by a projecting cornice with brackets.

Palazzo Sciarra, built at the commencement of the xvii cent., from the designs of Flaminio Ponzio, with a single and dignified façade about 140 ft. long, in three stories, the lowest having a fine central doorway which has been attributed to Vignola, and is composed of an arch of rustic masonry with decorated imposts and keystone, faced with a Roman Doric order of two detached columns on pedestals. The windows, all square-headed, have in the first and second stories simple horizontal caps. The second story windows rest on a balustrade-course, those of the third on a moulded belt. The angles are quoined, and the whole is finished by a fine enriched cornice.

Palazzo del Senatore. See *Capitol.*

Palazzo Sora. See *Buoncompagni.*

Palazzo Spada, built about 1560, from the designs of Giulio Mazzoni, a pupil of Daniel of Volterra, who showed himself to be more decorator than architect. It covers a square of about 150 ft., with spacious gardens and outbuildings in the rear. Its singular façade is in three stages, of which the first is of rustic masonry, with a central arched doorway and four square-headed windows on each side, with moulded architraves and horizontal caps. The second and principal stage has two ranges of simple windows, between and about which the whole wall is fretted with a profusion of niches, tablets, medallions, figures, garlands, and other ornaments in stucco, suggesting a design in tapestry more than an architectural composition. The third stage has simple square windows, between which are square decorated panels, and above them an enriched cornice. The interior contains two courts, of which the principal is surrounded on three sides by handsome vaulted arcades, faced with an order of Doric pilasters, over the entablature of which is a band of stucco reliefs. The wall of the court above the arcade is in two stages corresponding with those of the façade, with an elaborately enriched cornice, and sculptured friezes above and below the upper windows. The design of the middle stage repeats with variations that of the façade. Much of this decoration is the work of Borromini, who also built a colonnade leading from the smaller court, constructed in simulated perspective, narrowing toward the end, the columns placed at diminishing intervals and lessening in size and height—a trick to which there are many parallels in the Italian Renaissance.

Palazzo Stoppani. See *Pal. Vidoni.*

Palazzo di Venezia, one of the oldest as well as one of the largest and most imposing of the Roman palaces; attributed by Vasari and Milizia to Giuliano da Majano, and lately to Francesco del Borgo. It was built in 1468 by Pope Paul II., a Venetian, and given by Pius IV., a century later, to the Republic of Venice for the residence of its ambassadors. When Venice was absorbed by the Austrian empire, the palace became the property of the emperor, and it is now the official residence of the Austrian ambassador. The palace was built about the ancient church of S. Marco (*q. v.*), at the time of the restoration or rebuilding of that church. Its plan is a rectangle some 400 ft. long and 250 ft. broad, enclosing a great oblong court, and with two principal façades Florentine in style, in three well-marked stages separated by moulded string-courses, the first with simple round-arched windows and moulded architraves, the second with broad square windows divided vertically and horizontally after the manner of a French

croisée ; the third with small square windows and horizontal caps. Above all is a bold arched corbel-table crowned with square battlements, giving to the building a mediæval character rare among the Roman palaces. The great interior court was to be surrounded by two stories of vaulted arcades, which were left unfinished. They have slender arches under orders of Doric and Corinthian engaged columns, those of the lower story on high pedestals; the second order raised on a balustrade-course. One end of the court is bounded by the church of S. Marco, into which a side entrance opens from the arcade. Attached to the palace at one angle is a second court about 115 ft. square, sometimes called the Little Palace, surrounded by two stories of vaulted arcades, the arches springing in the first story from octagonal Corinthian pilasters, and in the second from short Ionic columns. These arcades, open toward the court, are closed on the exterior by façade-walls in three stories, the two upper having arched panels connected by moulded imposts, the second story crowned by a strong arched corbel-table, the third, apparently a later addition, with square battlements. (*See Fig. 176.*)

Palazzo Vidoni, or Stoppani, a large palace of simple and dignified design, commonly attributed to Raphael, and presumed to have been built about 1513. It has a façade some 230 ft. long, in three stages, the lowest of rustic masonry, with the centre distinguished by a different treatment of wall surface, and of openings, of which there are seven, alternately square and arched. The second story presents an unbroken range of coupled Doric columns on a balustrade-course, with tall windows with horizontal caps in the intervals. The third story is an ill-designed attic of later date, and quite out of keeping with the general composition.

The Pantheon, the best preserved ancient monument of Rome, and one of the most notable buildings in the world, consists of a great cylindrical cella, covered by a dome 143 ft. in diameter—the largest



Fig 176.—Rome, Pal. di Venezia, Court.

existing dome of masonry — lighted by a circular opening at its vertex nearly 30 ft. across, and preceded by a Corinthian portico 110 ft. by 46 ft. The main structure is of concrete bonded and faced with fine brick-work. The walls without, now bare, are divided by two moulded string-courses: the lowest space was originally incrusted with marble, the two above with ornamental work in stucco. The base of the dome is masked outside by a blocking-course above which six encircling steps lead up to the spherical surface. Under Urban VIII. (1623–44) Bernini added two

belfrys, one each side of the portico. These, which were nicknamed Bernini's ears, have recently been taken down. The building stood on a quadrangular platform, and five steps, four of which are now buried, led up to the portico. This portico, though not well adapted to the great rotunda, is in itself the finest in Rome. It bears a high pediment, is octostyle and three intercolumniations deep, but alternate pairs of interior columns are suppressed, making three aisles whose ceilings are vaulted in coffered barrel-vaults. (*See plan, Fig. 177.*) The original columns, of which three have been replaced, are monoliths of gray and pink Egyptian granite with capitals and bases of white marble, and are more than 40 ft. high. The proportions of the interior are extremely simple. The whole height is equal to the whole diameter; and the dome is a hemisphere of the same height as the wall below it, so that its surface, if extended into a complete sphere, would exactly touch the floor. The massive walls, made more than 20 ft. thick to abut the thrust of the dome, are cut away inside into eight large niches, alternately rectangular and semicircular. A great Corinthian entablature encircles the interior at half the height of the wall, carried above the niches on pairs of fluted columns of Numidian marble flanked by pilasters. Between the niches stand eight canopies against the wall, each consisting of a pediment borne on two smaller columns, in pairs alternately of giallo-antico and porphyry, standing on pedestals. Under these pediments, which are alternately triangular and curved, are modern altars. Over the main order is an attic, decorated with a small order of Corinthian pilasters with rectangular niches in the intervals, corresponding to the niches and canopies below. From this attic rises the dome, divided into deep coffers between twenty-eight meridional ribs and four horizontal, a broad smooth zone being left about the open eye. The effect of this interior is of unequalled simplicity, spaciousness, and majesty, and the lighting is unexampled. Perhaps the want of relation in the design of the dome to that of the wall, and a discordance in scale between its coffering and the details below it, are its only faults. Besides its columns of precious marbles, it was splendidly revetted and paved with marbles, and despite plundering carried on through centuries, much of its ancient decoration survives. The interior of the dome was once plated with bronze. The bronze-plated doors, simply but elegantly panelled, are the original doors of the temple.

The Pantheon has always been ascribed to Marcus Agrippa, whose inscription still decorates the portico, and was presumed to be the great rotunda of his baths; but in 1892 a careful architectural examination of it was conducted by the Italian Government, with unexpected results. It is henceforth established that the existing rotunda and dome were constructed by Hadrian, about 125 A.D., and remain essentially as he built them. The portico was perhaps later, between the time of Hadrian and that of Septimius Severus,

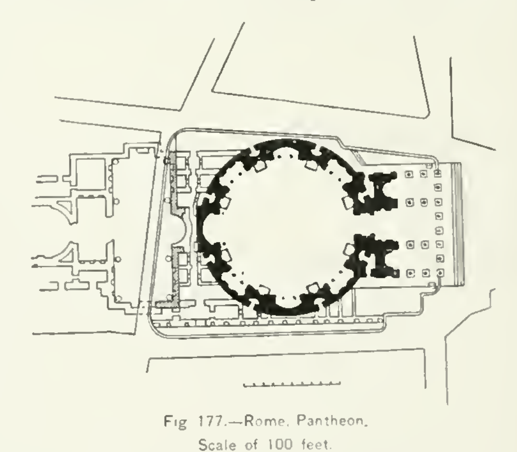


Fig 177.—Rome, Pantheon.
Scale of 100 feet.

the inscription on the entablature being the original from Agrippa's Pantheon, transferred to its present position. The

Pantheon of Agrippa, built in 27 B.C. and restored under Titus after the conflagration of 80 A.D., was a circular structure of essentially the same disposition as the present rotunda, but with a conical roof of wood which was probably supported by an interior circular range of columns. The pavement of Agrippa's building was about 6 ft. beneath that of the existing monument. Originally dedicated to the chief gods of Rome, and especially to those connected with the Julian family, the Pantheon was consecrated as a church by Boniface IV., about 608, under permission of the Emperor Phocas, in the name of Sta. Maria ad Martyres, but was soon known by the name it still bears—Sta. Maria della Rotonda. It contains the tomb of Raphael, who was buried here in 1520. (*See Figs. 177, 178.*)



Fig. 178.—Rome, Pantheon.

PORTA MAGGIORE, ancient Labicana, a monumental structure by which the aqueducts of the Aqua Claudia and the Anio Novus are carried into the city over the roadway. It was first incorporated in the city walls by Aurelian, and still affords passage to the Via Labicana and the Via Prænestina. It is massively built of rusticated ashlar in travertine, and consists of two archways 46 ft. high, the piers supporting which are pierced by small arches between engaged columns (also rusticated and perhaps unfinished), supporting entablatures and pediments. In the high attic pass, one over the other, the two water-channels. The attic is divided into three bands which bear inscriptions, the first recording the construction by Claudius in 52 A.D., and the two others commemorating restorations by Vespasian and Titus, in 71 and 81 A.D.

PORTA DEL POPOLO. This gateway, constructed out of the materials of the ancient Porta Flaminia, was built by Pius IV. in 1561, from the designs of Vignola. The wall is of travertine, with a high round entrance arch springing from decorated imposts, and flanked by two detached Doric columns of red granite and breccia marble on pedestals, carrying an entablature with triglyphs, surmounted by a high and rather clumsy attic. Two statues occupy the intercolumniations on each side the arch.

PORTA SAN LORENZO, the ancient Tiburtine Gate, built of travertine. On the inner side of the gate the Arch of Augustus is seen above it, carrying over the opening the three conduits of the Aqua Julia, the Aqua Tepula, and the Aqua Marcia. An inscription sets forth that the aqueduct arch was restored by Vespasian and Severus. The arch is flanked by pilasters, and bears a bull's head on the keystone. On the exterior side, between two XV cent. towers, appear remains of a gate-structure of the time of Arcadius and Honorius, with an inscription.

PORTICO OF THE DII CONSENTES (the advising or counselling gods), the six chief male and six chief female deities of

Rome, in the S. W. angle of the Forum Romanum. The portico was restored in 367 A.D., by the prefect Vettius Agorius Prætextatus, and the existing remains conform in style to that date. There are nine columns, five of them of travertine and unfluted, in part preserving their entablature, and a series of vaulted chambers which served as offices for the clerks and criers of the ædiles.

The PORTICO OF OCTAVIA, with the temples it enclosed, constituted in antiquity one of the most remarkable groups of buildings in the region of the Flaminian Circus. It was built by Augustus on the site of the portico of Metellus, which dated from 146 B.C. In plan it was a large rectangle surrounded on the inside by a colonnade, and having on one side a central pedimented porch or propylæum. In the court stood temples to Juno and to Jupiter, earlier foundations rebuilt by Augustus. In connection with the portico were a house (curia) for meetings of the senate, two libraries, and an establishment for notaries. This group of buildings was adorned with many of the most splendid Greek works of art, including statues by Phidias, by Cephisodotus, and by Lysippus. Great damage was done by a fire under Vespasian, and the buildings were restored under Severus, in 203 A.D. The entrance-porch survives still in large part; it had originally a hexastyle Corinthian portico on each face, and the pediments were filled with sculpture. Eight columns of Parian marble, about 33 ft. high, are *in situ*, of which three belong to the outer colonnade and two to the inner. Portions of the antæ also remain, in concrete faced with brick, and a number of monolithic Corinthian columns, of poor style and no doubt dating from the restoration of Severus, of the portico proper. There are in addition some remains of the two enclosed temples.

The PORTICO OF THE SÆPTA JULIA, on the border of the Campus Martius, a covered portico of great extent surrounding a large open space. It was projected by Julius Cæsar and completed by Agrippa, as a voting-place for the Comitia Centuriata. It was divided by piers into aisles, and was richly adorned with statues and with incrustation of marble. It was sometimes used for speech-making and for athletic exhibitions, and in later times became a bazar. Eight ranges of piers of travertine, 3½ ft. square, survive, five in the sacristy of Sta. Maria in Via Lata, and three beneath the Palazzo Doria.

The PYRAMID OF CAIUS CESTIUS, prætor, tribune, and priest, a notable tomb dating from about the beginning of the empire, rises beside the semi-Roman, semi-mediæval, double-arched Porta San Paolo, and consists of a steep pyramid 98 ft. square at the base and 122 ft. high. It stands on a foundation of travertine, and is formed of a core of concrete faced with good masonry of large marble blocks. The burial-chamber, built of brick, is about 20 ft. long, 13 ft. wide, and 16 ft. high; its barrel-vault is coated with fine stucco painted with excellent arabesques. The present entrance was broken through in the XVII cent., efforts to find the original entrance having been unsuccessful, but the burial-chamber was found empty. A colossal bronze statue originally stood before the pyramid; one of its feet is in the Palace of the Conservators.

QUIRINAL. See *Palazzo di Monte Cavallo.*

REGIA, the public office of the Pontifex Maximus, an important ceremonial foundation, traditionally ascribed to Numa, including the council-room of the pontifices, and the record-office of the Fasti and similar public documents. It stood on the Forum Romanum at the end of the Sacra Via. The plan was a trapezium measuring about 25 ft. by 65½ ft., divided into three rooms. At the west end parts are standing of walls of *opus quadratum* and concrete faced with *opus reticulatum.*

One partition-wall is built of solid blocks of Carrara (Luna) marble, a very rare method of construction in Rome.

Rostra, the tribune or platform for orators in the Forum Romanum. It was originally placed before the Curia (the church of S. Adriano), and was removed to the position of the existing remains, toward the middle of the Forum, by Julius Cæsar in 44 B.C. This famous tribune had its name from the affixing to it, in 338 B.C., of the bronze beaks from the ships captured at Antium. The excavations of 1882 have made known the plan and detail of Cæsar's structure, which consisted of a rectangular platform 80 ft. long and 11 ft. high, with front and end walls of tufa. The floor was formed of slabs of travertine supported by two ranges of piers with lintels. The entire exterior was incrusted with marble slabs, and the top was crowned with a pierced parapet of marble. To the front wall were affixed the beaks of the ships, in two tiers, and on the platform were set up a number of statues. Behind the rostra, and concealed by it in its present position, are the remains of a very richly adorned platform of convex plan, called the Græcostasis.

S. Adriano. See *Curia*.

Sta. Agata alla Suburra, a small basilica with aisles and apse, but without transept, built as an Arian church by the Gothic Ricimer, near 460. It was re-dedicated by Gregory the Great in 693, after long abandonment, and was thoroughly modernized in the XVII cent., but the old walls of nave and aisles remain, and their twelve columns of gray granite, with stuccoed Ionic capitals, bearing stilt-blocks and round arches. In front of it is an atrium surrounded by loggias, which, if it is original, has at least quite lost its old aspect.

Sta. Agnese, in the Piazza Navona, occupies the site of an older church replaced about 1650, under Innocent X., from the designs of Girolamo Rainaldi. Its plan internally is that of a Greek cross, with a central octagon about 55 ft. in diameter, with four great recesses opening by round arches from its four greater sides, and four semicircular niches from the smaller sides. Of the square recesses, one forms the entrance vestibule opposite which is the choir with the high altar, the other two being chapels with semicircular apses. The octagon is covered by a high dome on a drum pierced with eight windows. The materials of this interior are of great richness, and the decoration is profuse and costly. The church is enclosed by a great number of accessory apartments, and on one side is the small College of the Innocenziana, built a little later by Borromini. The picturesque exterior of the church, also by Borromini, has in front a central portico of four Corinthian columns with pediment and high attic, and two advanced flanking towers joined to it by curving wings. The towers terminate in open belfries surmounted by rather rococo spires. The central dome is elevated on a high tambour, surrounded by an order of coupled Corinthian pilasters, and crowned by an octagonal lantern.

Sta. Agnese fuori le Mura is a small basilica some 60 ft. by 100 ft., without transept, dating from the time of Constantine, and comparatively little disguised by modern alterations; and so, apart from its sanctity, is of great historical interest. It stands about a mile and a quarter outside the Porta Pia, on the Via Nomentana, on sloping ground whose level has so risen about the front that its floor is reached by a long descending flight of marble steps. It has the peculiarity, rare in Rome, of a nun's gallery or upper story over the aisles, which crosses the front, and above which rises a clerestory. Eight pairs of round arches divide the aisles, which are only about 8 ft. in clear width, from the nave, which is 30 ft., and are supported by columns, Corinthian and Composite, taken from various older build-

ings. The lower aisle is groin-vaulted, the upper, with an arcade resting on smaller columns, is also groined, and has windows across the front. The clerestory is of plain round-arched windows, and supports a rich modern flat ceiling. The conch of the apse retains its original mosaic on a gold ground, with a figure of St. Agnes between Sts. Symmachus and Honorius, and below, its original clothing of marble. The remains of St. Agnes lie under the high altar, which is modern. A porch at the level of the road gives direct access to the upper aisle built for the use of the nuns of the adjoining convent at the left of the apse, which is flanked on the outer side by a campanile of which the lower part is nearly as old as the church. Constantine is said to have built the church in 324, at the request of his daughter Constantia, over the tomb of St. Agnes. Constantia's own mausoleum, now known as the church of Sta. Constanza (*q. v.*), stands near by. The church was restored by Symmachus at the beginning of the VI cent., and a century later by Honorius. They doubtless followed the old plan; but it is difficult to judge how much of the original work remains. Since then there is probably little change, except for the modern chapels that flank the aisles, the ceiling added by Cardinal Sfonderato, and the decoration restored by Pius IX., who also rebuilt the hall which opens from the court, replacing one that fell down with him during a solemn assembly in 1854. (*See Fig. 179.*)



Fig. 179 Rome, Sta. Agnese fuori le Mura.

S. Agostino, a small XIII cent. conventual church, built for the monks of the order of St. Augustine, but enlarged in the XV cent. by Giacomo da Pietra Santa, and Sebastiano, a Florentine. In 1480 and after, Baccio Pintelli executed the façade and central dome. In the XVII cent. the church was again restored from the designs of Vanvitelli. The plan includes a nave and aisles about 125 ft. long, the nave in three vaulted bays, the aisles each in six, a transept, and deep apsidal choir with lateral chapels. The bays of the nave are marked by square piers faced with colored marbles and bearing an order of Corinthian pilasters. Each nave bay has two round arches divided by an intermediate pier, which determines the division of the aisles into square bays according to the arrangement of the original Gothic vault, which remains. Above the nave arches is a clerestory with an order of low Corinthian pilasters which take the ribs of the vaulting. From each aisle opens a series of semicircular niches or chapels, between which Corinthian pilasters take the ribs of the aisle vault. The transept arms have each two oblong groined bays, terminating in a round apse. The hemispherical dome built by Pintelli, and said to be the earliest example of a dome upon a drum supported by pendentives, which was taken down in the last century, has been replaced without the drum, and in 1855 was decorated with paintings of the twelve

apostles by Gagliardi. The façade, of no great merit, has the fine detail that is characteristic of Pintelli. Upon a flat wall the outline of the nave and aisles is marked by pediments, cornices, and sparse pilasters, the clerestory flanked by enormous scroll-buttresses. There is a round window in the end of the nave, three doors, the central one rich and lofty, and scattered panelling.

S. Alessio (St. Alexis), a Renaissance church, rebuilt in the xviii century. It is in plan a rectangle about 90 ft. wide and 150 ft. long, preceded by a square atrium the full breadth of the church, with a vaulted arcade at each end. The interior has a broad nave, barrel-vaulted, with an order of coupled Composite pilasters, between which arches open into the square bays of the aisles. The transept, 32 ft. wide, does not project beyond the aisle walls. A semicircular tribune opens from its centre, and the crossing is covered by a dome. The choir, including the transept, is raised above the nave; and beneath is the old crypt, divided by ten columns into two aisles. The original church is said to have been built early in the iv cent., by St. Alexis, on the site of a temple in honor of St. Boniface, and the new one follows its lines, preserving the atrium, the three aisles, the transept, and apse; but the columns have disappeared and the old forms are entirely lost. It was consecrated anew by Honorius III. in 1217, when the bones of St. Boniface and of St. Alexis were discovered and deposited under the high altar. In 1744–50 the church was substantially rebuilt by the monks of the adjacent monastery. An extensive convent is attached to the church on the left, of which the rooms are disposed about a square cloister some 70 ft. on each side, surrounded by vaulted arcades on columns and with fine spacious gardens in the rear. The square brick campanile dates back from the xii or xiii century.

S. Anastasio. See *SS. Vincenzo ed Anastasio.*

S. Andrea, a little chapel on the Via Flaminia, near the Villa di S. Giulio (*q. v.*), a mile beyond the Porta del Popolo, built by Vignola for Julius III. before his accession, in memory of his escape from danger during the sack of Rome by the troops of Charles V., in 1527. Its plan is a rectangle 40 ft. by 32 ft. Its façade is composed of an order of Corinthian pilasters, coupled at the angles, crowned by a pediment, above which is an attic more than half as high as the order itself. Over this attic the high oval drum of the low dome is visible. The middle intercolumniation is occupied by a square door with a pediment, the sides each by a window in a decorated niche. The interior is an undivided hall with an order of Corinthian pilasters carrying the pendentives of the oval dome. See also *S. Gregorio Magno.*

S. Andrea delle Fratte (St. Andrew of the Hedges). This church was, in keeping with its name, the property of the Scotch Catholics up to the English Reformation. A substantial rebuilding was begun in 1605, under the architect Gaspare Guerra. Its plan is a rectangle 68 ft. by 180 ft. The nave, 42 ft. wide and 95 ft. long, is flanked by shallow rectangular chapels. The transept arms are only two broader chapels. The crossing is covered by a hemispherical dome, built from Borromini's designs, as was also the rather extravagant bell-tower. The square choir ends in a semicircular tribune. The façade of simple design, by Giuseppe Valadier, was added in 1826. On the right of the church is a fine cloister, 95 ft. square, enclosed by vaulted arcades, and surrounded by the buildings of a small convent.

S. Andrea della Valle, a cruciform church begun 1591, from the designs of Pietro Paolo Olivieri, and finished under Carlo Maderno. Its plan forms a Latin cross, about 260 ft. in length and 140 ft. in breadth across the transept, with a tunnel-vaulted nave 50 ft. wide and 130 ft.

long, separated from the aisles by broad piers faced with triple pilasters, from which transverse arches are thrown across the nave. The aisles are divided into square chapels by transverse walls with a door of communication. The crossing is covered by a lofty dome painted by Lanfranc, on the pendentives of which are the four Evangelists by Domenichino. The rectangular choir is flanked by a domed chapel on each side, and terminates in a semicircular tribune. The façade has an order of pilasters and engaged columns on high pedestals, with broken pediments and some exaggeration of design, the work of Carlo Rainaldi.

SS. Apostoli. This church was originally a Christian basilica. It has been called Basilica Constantiniana, but was founded by Pelagius I. in 559, and enlarged by John III. It was rebuilt early in the xv cent., under Martin V. The apse was added half a century later, with the façade, under Sixtus IV., the last from the designs of Baccio Pintelli. In 1702 the interior had become ruinous and was thoroughly rebuilt by Clement XI., the architect being Francesco Fontana. The plan, exclusive of the choir, is nearly square, the breadth being about 150 ft. and the length 160 ft. The scale of the interior is imposing. The nave, about 55 ft. wide and barrel-vaulted, with lunettes, is separated from the aisles by three great arches springing from massive piers, faced on three sides by coupled pilasters. The aisles are in three nearly square bays, separated by double transverse arches springing from detached columns, and covered each by an oval dome. Each bay has a shallow chapel in the thickness of the side wall. The choir is very spacious, and is divided into a single square bay and a round apse. The façade consists of a great double portico, standing obliquely to the front of the church, and composed of two unbroken ranges of round arches, nearly 15 ft. wide. Both arcades were originally open, but the upper one has been walled up, and the increased weight thus occasioned made it necessary to reinforce the piers below. Each arcade is surmounted by an entablature, of which the upper one bears a balustrade with statues of the apostles, and Christ in the middle.

Sta. Balbina is a small church whose consecration by Gregory the Great (590–604) is recorded. It is simply a plain nave, quite modernized, but retaining an open roof with some traces of its old ornament. It has flat pilasters on its walls, a large round eastern apse, and rows of later chapels along the sides, with a tier of windows high up in the walls, like a clerestory. Across the front is a porch of three arcaded bays on pilasters, the side arches filled up. It is noticeable that no columns are seen in the building. It has been assumed that the church was built by St. Gregory, and Mothes has argued that it was originally built with aisles in place of the side-chapels and piers between; but Hubsch and the latest authorities agree that it was one hall, like the so-called Basilica at Trier, and was built in heathen times, perhaps as late as the iv century.

Sta. Barbara. See *S. Gregorio Magno.*

S. Bartolommeo all' Isola stands on the island of the Tiber, on a site occupied as early as the x cent. by the church of St. Adalbert, which had itself replaced an ancient temple of Jupiter, or perhaps of Æsculapius. The present church was originally built — according to an inscription over its central door—by Pascal II., in 1113, but was restored a few years later under Gelasius II., again in the same century by Alexander II., and finally, in the latter half of the xvi cent., by Gregory XIII., from the designs of Martino Lunghi. It is a rectangular basilica, and the interior, divided into a nave and aisles, is about 58 ft. wide and 65 ft. long, separated by arcades borne on antique columns of granite

and marble, with Composite capitals, preceded by a two-story vaulted narthex which runs across the entire front, and opening into a transept about 20 ft. wide, raised by several steps above the nave and over the neglected crypt. Of the columns, that next the entrance on the left was imbedded in a pier for the support of the mediæval bell-tower which shows its three upper stories of triple windows over the end of the aisle, behind the façade. From the centre of the transept opens a semicircular tribune, flanked on each side by a deep rectangular chapel. From the alternate bays of each aisle open other rectangular chapels. The nave has a panelled wooden ceiling dating from 1624, and decorated with gold and color. The façade is in two stages, the centre brought forward slightly over a portico of four detached granite columns and covered with a low pediment. The lowest stage has an order of Corinthian pilasters on pedestals, with three arches opening into the narthex, the other two filled by niches. The upper stage has square-headed windows on a pedestal-course, with pediments and horizontal caps. The church was founded by the Emperor Otto II. in 982 (or, as some have thought, by Otto III.), on the site of a temple of Æsculapius, rebuilt according to an inscription by Pascal II. in 1113, often altered and finally given its present form in the latter half of the XVI cent., by Martino Lunghi. The outlines of the original church remain, and also the columns and arcades.

S. Basilio. See *Temple of Mars Ultor.*

S. Bernardo. See *Thermæ of Diocletian.*

Sta. Bibiana, an early basilica near the Porta S. Lorenzo, consecrated in 473, by Pope Simplicius, over the grave of the martyr, and according to tradition, on the site of a memorial chapel built by the matron saint Olympia in 365. It has been much rebuilt at different times, and the aisles are covered by side chapels; but the original eight antique columns and flat roof remain, as well as the one square bay of the choir. In 1624–30, it was remodelled by Bernini, who added the portico of three arches with an order of coupled Ionic pilasters.

S. Carlo, an imposing Renaissance church in the Corso, was founded in 1612 in honor of the canonization of S. Carlo Borromeo. It was begun under the architect Onorio Lunghi and his son Martino, and finished by Pietro da Cortona. The plan is a rectangle about 140 ft. broad and 190 ft. long. The nave has a breadth of about 45 ft., and is covered by a barrel-vault adorned with paintings, and pierced on each side by three lunettes with windows. The nave piers are faced with coupled pilasters; the aisles are divided into three square bays, each covered by a low dome; from each bay opens a large square chapel. The transept has the same width as the nave, and the crossing is covered by an elliptical dome. The choir is square and terminates in a round apse; the aisle is carried round it, divided into bays, covered as in the main aisles by low domes. The church is connected with various accessory buildings on each side, among which is a hospital for Lombard patients. The clumsy façade added in 1690 from the designs of Menicucci is of little interest.

Sta. Caterina dei Funari (of the Rope-makers), a small church on the site of the Circus Flaminius, and of a subsequent ropewalk from which it takes its name, is chiefly noteworthy for its façade built in 1563 by Giacomo della Porta. This has a lower order of Corinthian pilasters, with a central door under an engaged and pedimented porch, flanked by two pairs of niches. A band of sculpture connects the capitals below the architraves; the whole is finely proportioned and of delicate detail. The second story, narrowed to the width of the nave and flanked by scroll-buttresses, has a similar

order with like treatment, crowned by a pediment and enclosing a central rose-window in a square decorated panel. The lower order and the main lines above are continued round the flanks with good effect.

Sta. Cecilia, in the Trastevere, is an early basilica, built, according to tradition, by Urban I. about 225, but more probably two centuries later, and thought to occupy the site of St. Cecilia's house. It was almost completely rebuilt in 821 by Paschal I., and two or three times after more or less transformed. It preserves the ancient atrium, preceded by an open portico with four detached columns, also the hexastyle portico of the church itself, adorned with early mosaics, and the narthex. The tribune, also mainly unaltered, contains the old bishop's chair and some original mosaics of the IX century. The main arcades of twenty columns were transformed in 1822, when the columns were encased in square piers, and the nuns' galleries which formed the second story of the aisles and narthex were disguised. The Gothic ciborium and high altar were made in 1283 by one Arnolfo, who has been held, though not without contradiction, to be Arnolfo di Cambio, the architect of the cathedral of Florence. In the confessio under it Paschal I. deposited the body of St. Cecilia, brought hither from the catacombs of St. Calixtus. The church belongs to a Benedictine convent, for whose use the original nuns' galleries were constructed. The square campanile was a later addition. The tomb of St. Cecilia has a fine recumbent figure by Stefano Maderno, copying the attitude in which her body was found when her tomb was opened in 1599.

S. Clemente is one of the most interesting of the older basilicas. It was built, according to tradition, on the house of St. Clement, the third or fourth bishop of Rome, and is mentioned in history as early as the IV century. Gregory the Great, in the VI cent., annexed to it a Benedictine monastery, and made it a place for penitential processions; and in 867 the body of St. Clement, martyred, it is believed, in the Crimea, was brought here by Cyril of Thessalonica, who is himself buried here. The choir was rebuilt or refurnished in 872–82, by John VIII. In 1084 it was burned by the fire which, in the sacking by Robert Guiscard, wasted the city from the Colosseum to the Lateran, but it was rebuilt in time to be used at the election of Paschal II. in 1099. The atrium of the early church is preserved, though much altered by Carlo Fontana at the beginning of the XVIII cent., and is entered by an old porch which resembles those of the Sta. Maria in Cosmedin, Sta. Prassede, and Sta. Saba—a single vaulted bay borne on four antique columns. The atrium is surrounded on all sides by open galleries, that in front of wide arches on heavy piers, those on the sides with light Ionic colonnades; the fourth side, rebuilt by Fontana for Clement XI. early in the XVIII cent., is an arcade on Ionic columns carrying the façade of the church, in the style of its period, and serving as an open porch. The church consists of a nave some 35 ft. wide with unequal aisles and an apse, but no transept. Each side the apse is a later apsidal chapel, and a square chapel is built in on either hand at the entrance, which is from the east. The main arcades consist each of two groups of five arches separated by a wall-pier, and carried on antique Ionic columns, some fluted, some plain. The entablature over the arcades, which continues round the church, the elaborate panelling of the walls, and the richly coffered ceiling, are due to Fontana; but the conch of the apse and the end wall of the nave retain their old mosaics, that of the apse of arabesques on a gold ground enclosing a crucifix, and dating from the XIII cent., those of the wall, on blue ground and prob-

ably older, figures of saints and the symbols of the evangelists. The choir and its furniture are often quoted as showing the unaltered arrangement of the early churches. The floor of the apse and a space in front of it, including the high altar, are raised above the nave for a presbytery, and the marble bench for the clergy, broken by the bishop's chair in the middle, lines the apse. A considerable space in the middle of the nave is enclosed for a choir, with barriers or screens of marble, panelled, carved, and inlaid with mosaic. The two ambones are incorporated with the screen—on the left an octagonal pulpit flanked by a marble column, twisted and inlaid, to hold the pascal taper; on the right a raised reading-desk with double lectern. The ciborium over the altar is of an early type, a square structure on four Corinthian columns, carrying an architrave that supports a gabled roof on colonnettes. It is noticeable that the pulpit and lectern are on opposite sides from those in the other early churches that still preserve them, and though the panels of the choir-screens bear apparently the monogram of John VIII., they are put up with a carelessness which suggests removal and refitting. Excavations undertaken within a few years by the prior of the adjacent convent, now Irish Dominican, have unexpectedly shown that the church stands on the ruins of an older one (which, it is inferred, is the one destroyed in 1084), and was probably built entirely anew at the end of the XII century. The lower church was a basilica substantially like the upper; but apparently with entablatures instead of arcades resting on its colonnades. Its ranges of columns are to be seen built up in the walls that support the upper church, its original walls are covered with many paintings of the history and legends of the church, attributed to various dates, from the V cent. to the XII. The floor of the old church is some 20 ft. below that of the new, and beneath this are found two older



Fig. 180.—Rome, S. Clemente.

strata of walls ascribed to the imperial time and the republican. Under the apse and behind it are chambers, one of which is called the Oratory of St. Clement; another, a larger vaulted room, is taken for a place of worship of the Persian god Mithras, whose altar, found under the apse, has been moved to the narthex of the lower church. At the rebuilding the church was narrowed, so that while the left aisle and range of columns are over those below, the nave and the right aisle, which is narrowed for the purpose, are included in the old nave, and the apses do not agree, the older being much larger. It is assumed that the new church was built directly on the accumulated ruins of the old, and that the screens and furniture of the choir were set up again as before, though somewhat carelessly; yet it is difficult to see how they could survive the violent and total destruction of the lower church. The episcopal chair bears the name of Anastasius, who was titular cardinal of the church at the be-

ginning of the XII century. (*See Fig. 180.*)

S. COSIMATO was originally a three-aisled basilica without transept, built for a convent of nuns under Gregory V. It was mainly rebuilt in 1475, under Calixtus II., with a façade by Baccio Pintelli. The old atrium and the shell of the original church remain. The atrium is entered, as in Sta. Saba and S. Clemente, through a projecting porch, which here is of curious form and penetrates the front wall, being half within and half without, and so is divided into two bays, one cross-vaulted and the other wagon-vaulted, while the corners stand on detached Corinthianesque columns.

SS. COSMA E DAMIANO. This small and ancient church, of which only the porch is seen from without, is a one-aisled basilica, with a nave 45 ft. by 65 ft., of four bays of arcades carried on grouped pilasters, with a panelled attic above and a horizontal coffered ceiling. It took its present shape in 1633, under Urban VIII., as an inscription tells us, when the side aisles, "dejectis lateralibus parietibus," were replaced by rows of chapels. Of the original church by Felix IV., in 528, the old apse remains, somewhat too broad for the present nave, with its mosaics, as well as those about the great arch, more or less altered. The vestibule is a round building which has puzzled archæologists, but is believed to be a temple dedicated first to Romulus, the son of Maxentius, and afterward to his conqueror, Constantine, before his conversion; which, by a natural confusion of tradition, has been confounded with a temple of Romulus and Remus. Behind the church were discovered the marble slabs engraved with the plan of Rome at the end of the II cent., which are preserved in the Capitoline Museum. When the church was restored in 1633, it was found necessary to raise the floor several feet to suit the accumulation of the outside soil, so that there is now a basement or lower church in which are the tombs of Saints Cosma and Damianus, the two Arabic physicians martyred under Diocletian, to whom the church is dedicated, and of St. Felix. (*See Fig. 164.*)



Fig. 181.—Rome, Sta. Costanza.

STA. COSTANZA, the mausoleum, or baptistery, of St. Constance, is a round building of some 73 ft. interior diameter, close by the church of Sta. Agnese fuori le Mura, and a mile or so outside the Porta Pia, and dates from the time of Constantine. It has a central rotunda surrounded

by twelve radiating couples of Composite columns, carrying as many pieces of entablature with round arches upon them, and above these a circular drum pierced by twelve round-arched windows, and a hemispherical dome with brick ribs sunk in a concrete shell. It is a singular peculiarity that since the blocks of entablature make square piers, the pier-arches widen outward to suit the expanding wall of the drum, and their soffits are conical. Outside the rotunda is a circular aisle, whose annular vault is abutted by a very thick outer wall, and in this wall are twelve niches alternately round and square. The four cardinal niches are larger than the rest; that in front contains the entrance, leading from an oblong vestibule, now dilapidated, which had an apse on each side, and an arcade of three arches in front. The niche at the back of the aisle contained the richly carved sarcophagus of porphyry which has been transferred to the Museum of the Vatican. In the lateral niches are two doors which open into a narrow surrounding area, once covered, it is believed, by a colonnade, and containing two stairways that lead down to a crypt. The building was built, it is said, by Constantine, in 326, serving first for the baptistery of his daughter Constantia (or Constantina), and of his sister of the same name, and afterward as their tomb. The vault of the aisle still shows considerable portions of its original decoration in mosaic, with genii and animals, vines and grapes; and other mosaics adorn the walls in places; those that covered the dome were destroyed when it was restored at the end of the XVII cent., and modern paintings substituted for them, but a drawing of the original decoration is preserved, we are told, in the Escurial in Spain. (*See Fig. 181.*)

S. Crisogono, in the Trastevere, a basilica as old as the V cent., and mentioned in the record of the Council of Symmachus, but like others much restored and altered. It has a flat-ceiled nave, 37 ft. wide and 140 ft. long, lined with eleven pairs of antique columns carrying an entablature, the original triumphal arch borne by two ancient columns of porphyry, a transept with apsidal choir, and two square side-chapels. Other chapels adjoin the left aisle. The whole transept and choir are considerably raised, as if to permit an unusually large confessio or crypt. In this, as in several other points, it resembles the neighboring church of Sta. Maria in Trastevere. The transept is probably an addition of the VIII cent., and the vaulting of the aisles of the XII. Over the altar is a rich modern baldacchino of alabaster. The façade, the work of Soria, in 1623, consists of a portico in one story, with four Tuscan columns between pilasters enclosing arches, and an order of Ionic pilasters and pediment above. The mediæval campanile against the north aisle, in five stories separated by cornices, is modernized.

Sta. Croce in Gerusalemme, or the Sessorian Basilica, so-called because it was built on the Sessorian palace, has been a puzzle to archæologists. At present, after a complete overhauling by Gregorini, in 1774, it has a high rather narrow nave covered by a barrel-vault pierced with lunettes, and aisles which are groin-vaulted. Nave, aisles, and transept are all under a single low gabled roof, the galleries which once appeared over the aisles being closed up. Originally the nave and aisles were separated by six antique columns on each side carrying arches, but these columns are now subordinated by filling alternate openings with piers, faced with the pilasters of a great Corinthian order, and the intervening arches are disguised by inserting lintels which carry panels of sculpture. The tribune of the choir is much wider than the nave, and occupies almost the whole east side of the transept, leaving room only for a narrow passage on each side. That on the right leads down by a stairway to the subterra-

nean chapel behind the apse, built by Helena, the mother of Constantine, to receive the fragments of the true cross which she brought from Jerusalem, whence the church is named. It has a domed ceiling adorned with mosaics which are ascribed to Peruzzi, as are the frescoes of the apse, by some credited to Pinturrichio. That on the left communicates with a corresponding but much later vaulted chapel. The old colonnaded porch was destroyed when the nave was remodelled, to make room for a great oval narthex by Gregorini, a rotunda divided from a surrounding aisle by piers of grouped pilasters, to which is prefixed a rococo façade. The mediæval campanile still stands beside it. The church dates from about 330, though its older existing parts doubtless mostly belong to 720, when it was restored by Gregory II. from great dilapidation. It was further modified in the middle of the XII cent. and of the XV, before it was finally transformed. A trace of the monastic (Cistercian) rule under which it passed, still lingers in the order that women shall not enter the chapel of St. Helena except on the anniversary of its dedication.

S. Eusebio. This conventual church, a rectangle of about 68 ft. by 110 ft., stands at the end of a long enclosure, across which extends its vaulted portico of five round arches on massive piers, with a single doorway in the centre of the nave. The nave is in five oblong bays, barrel-vaulted, divided by transverse arches, and separated from the aisles by arcades of which the piers are faced with pilasters. The aisle bays are square and covered by low domes. The transept, which does not project beyond the aisle walls, is divided into three bays, from the central one of which opens a square choir with carved walnut stalls on three sides. The ceiling of the nave is painted by Raphael Mengs. The original church, probably a basilica, is believed to have existed in the time of Gregory the Great; it was restored by Pope Zacharias, and again by Gregory IX., who, in 1238, dedicated it to St. Eusebius and St. Vincent. In 1711 it underwent a third restoration by the monks, under the architect Carlo Stefano Fontana, and was finally remodelled, in 1750, by Niccolo Piccione, when the ancient columns of the nave were replaced, or perhaps enclosed, by massive piers. An extensive convent is attached to the church on the right, with an oblong court of peculiar plan, composed of a central square with two stories of open arcades on two sides, and a narrower retreating bay at each end; the Doric and Ionic orders of pilasters carried round the whole.

Sta. Francesca Romana, an old church built in the middle of the IX cent. by Popes Leo IV. and Nicholas I., and still retaining the old walls and the original apse, which is remarkable for some early mosaics, of uncertain date but ascribed by some to Nicholas himself. It has been much transformed, chiefly in 1620 by Carlo Lombardi, who added the façade. The aisles have been divided into chapels, and the nave covered with a rich coffered ceiling. The modern front gives an open porch of three arches, an order of Corinthian pilasters against the nave with pediment and pedestals, a lower Doric order against the aisles, and scroll buttresses over them. Under the raised choir is a crypt containing the body of the saint. The church is built on the foundations of the Temple of Venus and Rome. Against its north side stands a well-preserved bell-tower, perhaps of the XI cent., with five arcaded stories—in the three upper ones pairs of coupled arches on mid-wall shafts.

S. Giorgio in Velabro, a basilica of very primitive style, called the Sempronian basilica because it is thought to stand on the site of a palace, or perhaps a basilica, built by the Sempronii. It was apparently built under Pelagius II., near the end of the VI cent., but had to be rebuilt a hundred years later. It is only about 100

ft. long, fronting the south; its nave and aisles, cramped by the site, contract toward the choir. Its arcades rest on sixteen rather irregular antique columns, Ionic and Corinthian, one bay being cut out from the west aisle by the square campanile at the S. W. corner. Above the round-arched clerestory is a simple wooden ceiling, and the interior is plain and bare, except the choir. This, occupying the last bay of the nave and the apse, is raised half a dozen steps, to give room for the confessio beneath, which holds the relics of St. George. The apse is lined with marble and has a bench for the clergy with the bishop's chair in the middle, a wainscoting, and over it an order of pilasters. Its semi-dome is painted with colossal figures of Christ, St. George, and other saints, apparently covering pictures which Giotto is known to have painted here. Over the altar is a characteristic and well-preserved early ciborium, a four-square canopy of Corinthian columns, carrying a kind of octagonal lantern supported by colonnettes. The altar below, and the face of the confessio beneath it, which is displayed by a gap in the steps, are ornamented with mosaics. The front has a richly carved architrave about the front door, evidently built of Roman fragments, and is crossed by an open porch with four Ionic columns *in antis* and an entablature built up of brick and marble, and made disproportionately high by brick relieving arches which are let into the frieze. The inscription on the porch indicates that it is an imitation of classic forms built in the XII century. The tower, one of the earliest in Rome, dates from the rebuilding at the end of the VII century. It has four arcaded stories above the roof, divided by modillioned cornices, the upper arcade carried on mid-wall shafts.



Fig. 182.—Rome, S. Giorgio in Velabro and Arcus Argentarius.

Against the tower, and partially swallowed up by it, is the Arcus Argentarius (*q. v.*), or Arch of the Silversmiths, sometimes called Arch of the Goldsmiths. There are indications that the church, like Sta. Maria in Cosmedin, belonged to a colony of Greeks; and Pope Zacharias, himself a Greek, in 745 deposited here the head, the helmet, and the spear of its patron, St. George, who is much honored in the Greek church. (*See Fig. 182.*)

S. GIOVANNI DECOLLATO (St. John the Beheaded). This little church was built by the Florentine Brotherhood of the Misericordia, which was founded about

1450 for the purpose of assisting and comforting prisoners condemned to death. The church is a rectangle 35 ft. by 90 ft., with a single nave with broad flat pilasters dividing the walls and carrying a light entablature. In the intervals are shallow arched recesses, above which in the three middle intervals are round-arched windows flanked by panels. The choir is separated from the nave by a transverse wall and round arch, the altar being in a square vaulted recess at the back. The whole church has a flat panelled ceiling which, as well as the pilasters and wall-surfaces, is elaborately decorated. The façade consists only of an order of four Doric pilasters with low pediment, with a square door flanked by two niches between the middle columns. Attached to the left flank of the church is a fine cloister 54 ft. square, surrounded on three sides by vaulted arcades with Doric columns, giving access on two sides to various subordinate apartments. The enclosure was the burial place of the condemned.

S. Giovanni de' Fiorentini, a Renaissance church which, exclusive of the choir and its chapels, is a rectangle measuring about 117 ft. broad and 150 ft. long, with a tunnel-vaulted nave 35 ft. wide and nearly 100 ft. long, and aisles divided by transverse arches into five square bays, from each of which opens a square chapel, two of them used as vestibules. The transept is as wide as the nave, with square ends; the crossing is covered by a high dome on a tambour. The choir is square with flat niches on three sides, and is flanked on each side by a square chapel. It was founded in the second half of the XV cent. by an association of Florentines whose duty it had been, during the plague of 1448, to attend to the burial of the poorer victims of the disease, and who afterward determined to build a national church in commemoration of that service. A competition was set on foot, in which Michael Angelo, Peruzzi, Raphael, Sangallo and Sansovino were among the contestants. The work was given to Sansovino, but was suspended on account of difficulties in construction resulting in failures; and the control passed about 1530 into the hands of Sangallo, and later into those of Giacomo della Porta and Carlo Maderno. The façade, added in 1734 by Alessandro Galilei, has an order of three-quarter columns coupled, with three doorways in the intervals, and the dome, which is circular in plan inside is octagonal outside.

S. Giovanni in Fonte, the baptistery of the Lateran, commonly known as the Baptistery of Constantine, stands detached to the rear of the church and connected with it and the adjacent monastery by a large enclosed court. In plan it is an octagon of 28 ft. diameter, covered by a dome and surrounded by an octagonal aisle, the whole diameter being about 68 ft. The central octagon is supported by eight ancient shafts of red porphyry with Ionic, Corinthian, and Composite capitals carrying an architrave, above which is a second range of columns of white marble and a heavy entablature reaching to the flat, panelled, and decorated ceiling of the surrounding aisle, and bearing the drum of the octagonal dome, which appears externally above the roof of the surrounding aisle only as a low octagonal wall pierced by small round windows and covered by a low roof. The central space is enclosed by a balustrade, within which is the ancient basin, sunk three steps below the pavement; in the middle stands the venerated font of green basalt. The wall of the aisle has on four of its sides great square panels filled with pictures representing the exploits of Constantine, above which are four square windows with tasteless decoration. The building is approached by a vestibule with two apsidal chapels on its sides. From two opposite sides of the surrounding aisle open chapels dating from the V cent., dedicated to



PISA—GENERAL VIEW







John the Baptist and John the Evangelist; and from a third side opens the oratory of S. Venanzio, a square apartment with a semicircular apse. The exterior is quite simple, the only decorative feature being an entrance portico of two antique Corinthian columns between pilasters attached to the vestibule. The baptistery was built by Sylvester at the order of Constantine, who, however, notwithstanding the popular tradition, was not baptized here, but in Nicomedia. Sylvester lined the basin with silver, surrounding it with the eight porphyry columns which carried a golden, or gilded, cupola, says Anastasius. A century later Sixtus III. enlarged it, and Hilarius added the chapels of the Baptist and the Evangelist. In the middle of the VII cent. John IV. built the chapel of S. Venanzio. Modern restorations have not greatly changed the structure of the building. (*See Fig. 183.*)

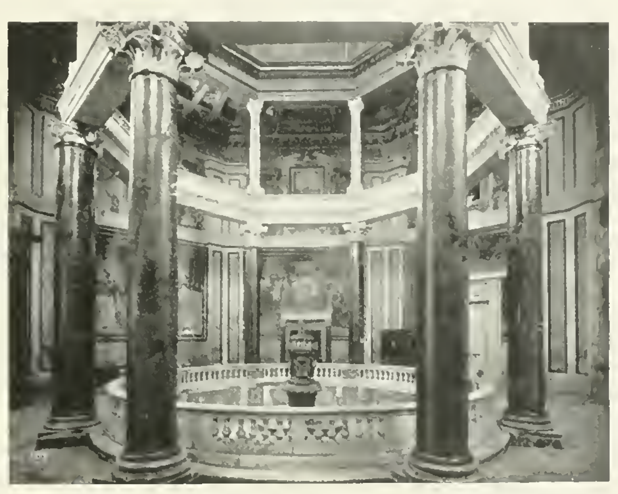


Fig. 183.— Rome, S. Giovanni in Fonte (Baptistery of Constantine).

S. GIOVANNI IN LATERANO, the Mother of Churches, fronts eastward and is faced with a narthex or portico extending quite across the front, and about 30 ft. deep, with five open arches toward the square, and five doorways entering the five aisles of the interior; it has a nave nearly 60 ft. wide and 250 ft. long, flanked by two aisles on each side, the whole interior breadth being about 170 ft.; a transept 50 ft. wide crossing the whole, and raised four steps above the nave, with a round apse opening from its centre, surrounded by a polygonal vaulted ambulatory of the width of the inner aisles. The rows of columns and arches in the original basilica were replaced or encased under Borromini by the great piers, of which those next the nave are 26 ft. broad, rising through the entire height of the nave, and faced each with two great Corinthian pilasters carrying an entablature; between these pilasters is a broad niche of extravagant design enclosing a colossal statue. Over the niches are square panels filled with bas-reliefs, and above these again great painted medallions. Between the piers are round arches with a span of about 20 ft., and half as high as the nave, over which are the square windows of the clerestory, enclosed within pilasters carrying broken pediments. The nave is covered with a flat ceiling deeply panelled and profusely decorated. The two rows of vaulted aisles on each side the nave are separated by square piers bearing longitudinal lintels and transverse arches, the latter of which divide the aisles into eleven bays each, corresponding to the arches and piers of the nave. The bays of the inner aisles are covered by low domes. The great triumphal arch of the basilica is retained, and springs from two Corinthian columns set against the nave piers, and carrying blocks of entablature. The transept ends are square, and in that on the right hand are three doorways opening from a vaulted portico of five arches which forms the lateral entrance from the piazza. The tribune, which with its surrounding aisle is the only portion

of the church that retains something of its earlier character, is a great semicircle of which the diameter is equal to the breadth of the nave, and covered with a semi-dome decorated with mosaics of the XIII century. The surrounding Gothic double aisle, of the same width as the inner aisles of the nave, and subdivided by a line of shafts into two concentric lines of groined bays, has just been restored away. On the left of the aisle an oblong chapel opens from the transept, used for the services of the church in winter. The high altar is nearly under the triumphal arch, and is covered by a high Gothic ciborium in two stories, a work of the XIV cent., the lower story with square openings, the upper with four round foliated arches with gables flanked by pinnacles and covered by a pyramidal spire. Several private chapels, built and maintained by as many great Roman families, open from the outer aisles, among which the most remarkable is the Corsini



Fig. 184.—Rome, S. Giovanni in Laterano.

chapel, built in 1729 by Pope Clement XII. from the designs of Alessandro Galilei. Its plan is a Greek cross, its arms covered by barrel-vaults, its centre by a high hemispherical dome with drum and lantern, and the whole interior of almost unexampled richness of material and decoration. This chapel has on the flank of the church a lofty three-story façade with an entrance doorway approached by a high flight of steps. The façade of the right transept, after successive changes, was brought to its present form about 1585, under Sixtus V., by Domenico Fontana. It consists of two stories of open arcades, the arches, five in each story, occupying the intervals of an order of pilasters, Doric below and Corinthian above, coupled at the angles, and the entablatures surmounted by balustrades. Above and behind the arcades, over the wall of the transept, appear two older square angle-towers joined by a blank wall with a horizontal cornice. The latest portion of the church is the great façade of the nave and aisles, an imposing structure covering the narthex and having little or no architectural relation to the church behind it. It was the result of a competition set on foot by Clement XII. Of twenty-one designs sent in, that of Alessandro Galilei was accepted and carried out. It is a rectangular building with a frontage of about 205 ft. and a depth of 44 ft., composed of a single great order of Corinthian pilasters on high pedestals covering two stories, with a high balustrade above the cornice, and colossal statues of popes crowning the pedestals. The centre is brought forward on coupled three-quarter columns and crowned with a pediment. Behind the pilasters are the two stories of open arcades defined by sub-or-

ders of Corinthian pilasters, that of the first story having an entablature running between the great pilasters, that of the second story having round arches. The composition is simple and on a grand scale, and is extremely imposing. Its effect is heightened by a great platform surrounding the building, in two levels, with two ranges of steps encircling it. South of the transept is a cloister which is one of the most interesting in Italy. It is in the style of the Cosmati, closely resembling that of S. Paolo fuori, and must date from near 1240. The court is about 80 ft. square, and surrounded by a graceful arcade of small round arches springing from coupled columns of varied design, the shafts plain, spiral, twisted, octagonal, many with an inlay of delicate mosaic, the capitals of a composite design greatly varied, and with abaci joining the two capitals of each pair. The columns stand on a stylobate, and over the arcade, which is divided into bays of five arches each, separated by broad flat pilasters, runs a heavy entablature, of which the architrave and frieze are enriched with mosaics and the cornice with sculpture. The galleries are divided into square bays which are covered with groined vaults, springing from Ionic columns without bases set inside the arcade, and from responding pilasters on the wall at the back. The cloister is the court of the monastery attached to the church, which was founded by Benedictine monks.

The Lateran church and palace take their name from the Roman family of the Laterani, whose palace the present buildings replace. Constantine gave the palace to Sylvester, then bishop of Rome, who, as early as 314, began there a basilica which he dedicated to the Saviour in 324. The church is the most venerable in Rome, possibly the oldest, in spite of the claim of Sta. Pudentiana. Until the



Fig. 185.—Rome, S. Giovanni in Laterano.

popes were driven to Avignon, in the beginning of the XIV cent., the Lateran was their residence and its church their private chapel: when they returned to Rome, in 1377, the Vatican became their residence and St. Peter's their chapel; but the Lateran church still retains its primacy as the Mother and Head of Churches. It was not until the middle of the XII cent., however, that it was dedicated to St. John the Baptist and St. John the Evangelist, and later still that it assumed the title that is inscribed upon it, "Sacrosanta Lateranensis Ecclesia, omnium urbis et orbis ecclesiarum mater et caput." It is impossible to make out clearly the history of its vicissitudes, alterations, despoilings, and rebuildings. Sergius III. [903–11] rebuilt it in what perhaps is the oldest form now to be traced in it. It was a five-aisled basilica, the nave bordered with arcades of fifteen great columns on each side, mostly antique, the aisle arcades carried on smaller columns supported by pedestals. The transept and apse followed the present lines, but without the apsidal aisle; the flat gilded ceil-

ing, already once or twice renewed, had given it the name of Basilica Aurea. The triumphal arch still remains. It had an open portico in front, making part of an atrium which has disappeared, and a façade adorned with mosaics. In 1289 Nicholas IV. built the double-vaulted aisle with pointed windows about the apse, as we now see it, which borrows the name of the Leonine Portico from some older structure not identified. It was twice burned out in the XIV cent., and the popes on their return to Rome found the palace in ruins. Gregory XI. restored the church; Pius IV. built the two small bell-towers which still mark the front of the transept, and the façade below them, which is now hidden behind the two-storied loggia that Fontana built against it for Sixtus V. The interior was entirely rebuilt in its present form in 1644–50 for Innocent X., by Borromini, who, it would seem, suppressed every third column in the arcades and walled up the resulting couples into the enormous piers which we now see, and changed the fenestration. Finally, in 1735, Alessandro Galilei added the superb double portico which makes the principal façade. (*See Figs. 184, 185.*) See also *Lateran Palace* and *S. Giovanni in Fonte.*

NOTE. The cloister was built by the most talented Roman artist of his day, Vassallectus, and his father, and its exact date has only recently been ascertained to be 1227. It is the prototype of that beautiful type of cloister with elaborate decoration in stucco and mosaic work, and with double twisted colonnettes sustaining panelled round arches, which was even then termed the Roman style. [A. L. F., Jr.]

SS. GIOVANNI E PAOLO. This very old church, attached to a Passionist convent, stands on the brow of the Cœlian Hill. It is a three-aisled basilica without transept, the nave ending in an apse. It has a vestibule across the front, showing eight antique columns, and it is one of the few churches in Rome that have a gallery in a second story across the front of the nave, over a narthex. The interior was entirely modernized in 1726, but still shows against its grouped pilasters the sixteen granite columns with composite caps that bore its original arcades, and the apse retains outside its Lombard arcaded eaves-gallery, the only one in Rome. The church was founded by Pammachus before 400, it is said, and was restored by Symmachus at the end of the V century. It was rebuilt under Adrian IV. (1154–59), when the vestibule and probably the arcaded apse were built. The detached bell-tower is mentioned as early as the VII century. It has, in its present form at least, three stories of quadruple windows.

S. GIOVANNI IN PORTA LATINA is a small basilica of the VIII cent., close by the old gate from which it is named. The open porch across its front had an arcade of seven arches, four of which are walled up, resting on irregular Corinthian columns. It has a nave and aisles, without a transept, with an apse of Byzantine form, unusual in Rome, three-sided without and round within, which is extended into a choir by walling off the ends of the transept. The nave, 25 ft. by 75 ft., has round arcades of six bays on ten various antique Corinthian columns. The church was built, or rebuilt, by Adrian I. (772–795), but the interior has been modernized by various restorations, mainly under Cardinal Rasponi in 1686. The lower part of the fine mediæval bell-tower probably dates from Adrian.

S. GIUSEPPE DE' FALIGNAMI. See *Mamertine Prisons.*

S. GREGORIO DE' CAMALDOLENSI. See *S. Gregorio Magno.*

S. GREGORIO MAGNO. Of the church built originally by Gregory II., in the VIII cent., on the site of the country-house of Gregory the Great, and of the monastery which he founded on the slope

of the Cœlian, little remains. The atrium was rebuilt and its façade added in 1633 by Cardinal Borghese, from the designs of Giovanni Battista Soria, and finally in the XVIII cent., under Clement XI., the whole church was entirely remodelled by the monks. The works were finished in 1734, by the architect Francesco Ferrari. The church occupies a commanding position on the hillside, and is approached by a triple range of steps of the full breadth of the front, enclosed between high garden walls. The façade of the atrium is in two stages, each with an order of coupled pilasters, Ionic below and Corinthian above, the upper order raised on a balustrade-course and covered with a pediment. The lower story is an open arcade; in the second are three square windows with pedimented caps. The atrium, 36 ft. by 60 ft., is surrounded by vaulted arcades, from the farther of which three doorways enter the church, which is 72 ft. wide and 112 ft. long, the nave separated from the aisles by massive piers faced with an order of pilasters, and flanked by the columns of a suborder, whose shafts of Egyptian granite perhaps carried the arcades of the original church. The aisles are divided by transverse arches into four square bays, each covered by a low dome. The nave terminates in a square-ended choir; the aisles have apsidal terminations, occupied as chapels. Adjacent to the church is an enclosure ending in three sides of an octagon, from which radiate three small chapels connected in a group by an open portico of four Corinthian columns, which crosses the front of the middle one. Dedicated to S. Andrea, Sta. Barbara, and Sta. Silvia, they were built originally by Gregory I., but since rebuilt. The lateral ones have round apses, the middle one a square end. Their architecture is very simple, but two are lavishly painted within, the middle one, St. Andrew's, with the noted frescoes painted in rivalry by Guido and Domenichino. The main church is popularly known as S. Gregorio dei Camaldolensi, from the Camaldolese monks into whose possession it passed in the XVI century.

S. IGNAZIO forms an important portion of the extensive buildings of the Collegio Romano (*q. v.*), although the church was finished a century later than the remaining portions. Its corner-stone was laid by Cardinal Ludovisi in 1626, but it was only completed in 1685. The design was adapted by Father Grassi from two designs of Domenico Zampieri (Domenichino), the painter. The plan is a Latin cross about 150 ft. by 250 ft. The rather heavy façade added by Alessandro Algardi has two superposed Corinthian orders of columns and pilasters, with scroll-buttresses over the aisles, and doors and windows surmounted by pediments. The nave, about 58 ft. wide and 130 ft. long, is covered by a barrel-vault and divided into three oblong bays by double transverse arches springing from massive piers, faced with coupled Corinthian columns which carry an entablature above the great nave arches which spring from the detached columns of a sub-order. The aisle bays are square, forming distinct chapels, each covered by a round dome. The transept, as broad as the nave, does not project beyond the aisle walls. Instead of the exterior dome which was intended, the observatory of the Jesuit Fathers covers the crossing, which, however, feigns within a dome elaborately painted with architectural compositions by Andrea Pozzi, one of the fathers, who also covered the vault of the nave with a wild and illusive architectural composition. The choir is a single rectangular bay with a fine semicircular tribune, flanked by two chapels similar to those of the aisles. The church is very rich in marbles and bronzes, and in color decoration.

S. IVO. See *La Sapienza.*

ST. JOHN LATERAN. See *S. Giovanni in Laterano.*

S. Lorenzo in Damaso, which occupies the site and probably the foundations of the original basilica of Pope Damasus I. (366–84), was entirely rebuilt with the palace of the Cancelleria (*q. v.*), and is concealed behind its façades. The design is simple and admirably treated—a nave, 50 ft. by 80 ft., preceded by a deep narthex, surrounded on three sides by a vaulted aisle, and ending in a choir of one straight bay and an apse. The arcades of the aisle, in five bays lengthwise and four across, are carried on pilasters with pedestals. A straight entablature above the arches bears a panelled attic, and this originally carried a barrel-vault broken by a central dome. These have been replaced by a clerestory of round-headed windows on the south, balanced by painted panels on the north, above which is a flat coffered ceiling. The apse of the choir is lighted by a semicircular eye, and adorned with balconied loggie like proscenium boxes.

S. Lorenzo fuori le mura (St. Lawrence outside the walls). This early and venerable church, one of the five great patriarchal basilicas, so called, is a composite of two churches of different dates, the older serving now as the presbytery, or choir, and the later as the nave; the whole making a great basilica without transept, 260 ft. long by 72 ft. wide. It has now no atrium; its eastward front is crossed by a deep open porch with a colonnade of six old Ionic columns on low pedestals, carrying an entablature adorned with early sculpture and mosaics, above which rises the front of the nave, recently painted with imitations of old mosaic. The rest of the outside is entirely plain, and against its northern flank rises a bell-tower of the XII cent., with five stories of coupled windows under round inclosing arches. The nave, of 36 ft. clear width and 125 ft. long, has on each side eleven antique Ionic columns, of unequal size, some granite, and some cipollino, bearing a straight entablature with bracketed cornice, whose frieze is occupied by flat relieving arches. Above the arcades is a high plain wall, pierced with round-arched windows, covered with modern paintings, and carrying a modern open roof. The older church continues the lines of the nave westward on a different level. Its floor, as appears in the aisles and in the old vestibule that crosses the rear, is much lower than that of the nave. But when the churches were joined, the floor of this part, taken as the presbytery, was raised several feet, bringing it above the level of the nave, and the crypt built under its central part, the former nave. It is bordered by ten fine antique Corinthian columns of pavonazzetto, and two of white marble, which carry an entablature built of irregular fragments of ancient buildings, and above this an arcaded upper aisle or women's gallery, with smaller Corinthian columns and cushion-shaped still-blocks under the arches. The gallery crosses the rear end of the church, and the upper wall is occupied by modern panelling and round-arched clerestory windows. The old triumphal arch divides the two parts of the church; the wall over it is adorned on the side toward the choir with the old mosaics, representing Christ and St. Peter, St. Paul, St. Lawrence, and Pelagius, the restorer of the church; on that toward the lower nave with modern paintings. In its spandrels are still two of the original rear windows, filled with perforated slabs of marble. In the presbytery, over the high altar, stands the old ciborium with four columns supporting a gallery of colonnettes, above which is an octagonal canopy. Below is the confessio, containing the remains of St. Lawrence, St. Stephen, and St. Justin; it has probably been undisturbed since the earliest days of the church. An inscription claims the ciborium as the work of the sons of one Paulus in 1148. The presbytery is floored with a rich mosaic pavement of

opus Alexandrinum, which is continued in part in the middle of the nave. At the back of the church is the *cathedra*, or bishop's chair, not, as usual, filling the back of an apse, for there is no apse, the church having a square end and cross-aisle. The chair stands at the end of the presbytery, occupying the middle of a broad screen of rich marbles and mosaic, and is flanked by benches for the clergy. In the nave below, on either side, are marble ambones, that on the left side being like the cathedra in style and beauty, in which no others in Rome equal them. An inscription on the back of the chair gives the date, 1254. Both the chair and the south ambo belong in style to the work of the Cosmati, famous Roman mosaicists of the XIII century. Under the floor of the presbytery is a considerable crypt, in three aisles separated by marble columns carrying a roof of stone slabs. The history of the church is very difficult to unravel. It is known to have been founded under Constantine before 336, and was altered or rebuilt many times—by Sixtus III. in 432–40, who adorned the confessio with silver and built a crypt about it; by Pelagius II. in 580; by Adrian I. in the VIII cent.; by Sergius II. (844–7); again in the middle of the XII cent. and in the XIII. The best conclusion seems to be that the church of the time of Constantine stood where the nave now stands, fronting the east, like all the earliest churches, with a western apse behind which was the tomb of the saint, and the original confessio; that Pelagius built a second smaller basilica behind the first, facing westward and with an apse including the confessio. That basilica is probably the present presbytery, and its front the straight rear wall

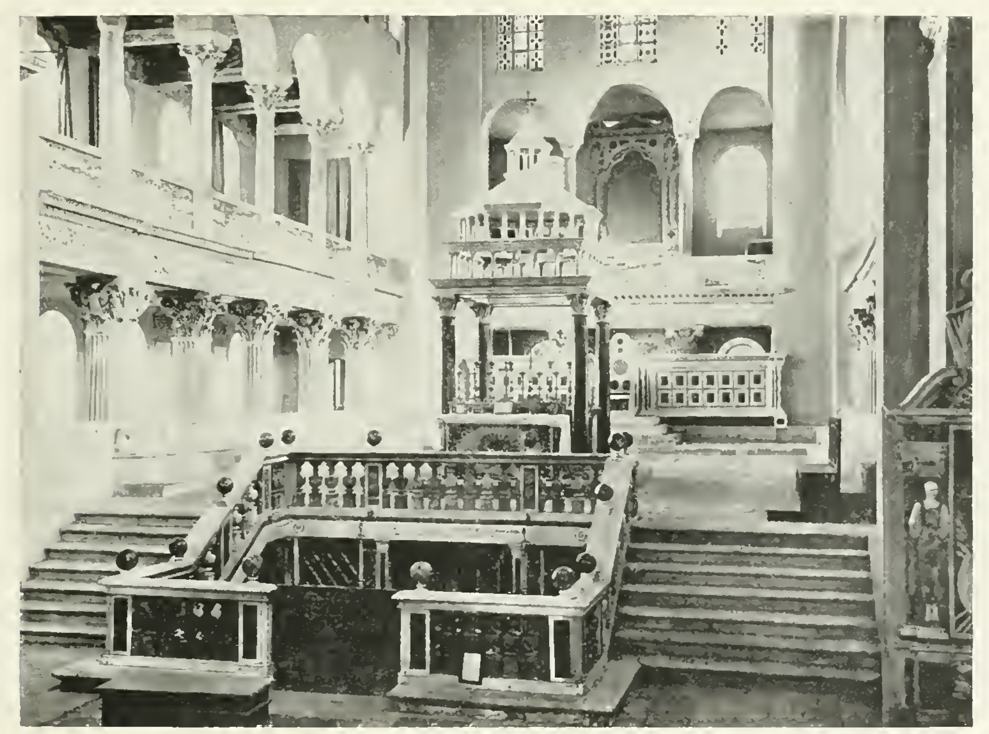


Fig 186—Rome, S. Lorenzo fuori, Choir

of the church as it now is. Adrian I. probably rebuilt the nave and threw the two churches into one, closing the western door. The cloister which adjoins the church on the north has been ascribed to the time of Clement III. (1290), but is likely to be older. It has triple arches in brickwork, and shafts with rough corbel capitals. The church has been considerably restored in this century. (*See Fig. 186.*)

S. LORENZO IN LUCINA is a very old church, whose foundation has been ascribed to St. Lucina, in the I cent., and which in history goes back to Sixtus III., at the middle of the V century. It was a three-aisled basilica, of which still remain the apse and parts of the clerestory wall, with outside pilaster-strips and arcading, the first appearance in Rome of a form unusual there. It was renewed in the XII cent., and retains the six granite columns of the mediæval porch, but was entirely built over and disguised at the beginning of the XVII cent., under Paul V. The bell-tower is one of the oldest in Rome, at least the plainer lower stories with single windows, while the two upper stories, with grouped windows, may date from the time of Adrian I. (772–795).

S. LORENZO IN MIRANDA. See *Temple of Antoninus and Faustina.*

S. MARCO, an interesting church included within the precincts of the Palazzo di Venezia (*q. v.*), built about 336 by Pope Mark I., and dedicated to his patron saint; restored in 772, by Adrian I., and again in 883, by Gregory IV., by whom it was extensively adorned with mosaics. In 1468, when the great palace was built by Paul II., the church was practically rebuilt, and little of the original building remains. Its plan is that of a basilica whose external dimensions are about 75 ft. by 200 ft., with a nave about 35 ft. broad and 105 ft. long, approached by an open vaulted three-arched loggia in front, separated from the aisles by the nine original columns of jasper on each side, against which piers have been built, with arches in the intervals, the aisles divided into square groined bays and flanked by niches alternately square and round, the nave covered with a wooden ceiling with deep decorated panels. Beyond the nave is a transept with vaulted arms, and beyond this a semicircular tribune with a spherical semi-dome, covered with the original IX cent. mosaics. The pavement of the nave and aisles is some steps below the street; that of the transept, which serves as choir, is raised to allow of the crypt beneath, in which is preserved the body of the founder. The aisles have side entrances, the one from the great court of the palace, the other from one of its corridors. The façade, added at the time of the rebuilding by Paul II. from the designs of Giuliano da Majano, is in two stages, the first consisting of three open round arches in the intervals of an order of engaged Ionic columns; the second of corresponding blind arches in an order of flat Corinthian pilasters, the intervals having each a square-headed window, with a circular window above in the arch-head.

STA. MARIA DEGLI ANGELI, one of the most interesting and successful examples of the adaptation of an ancient classic building to modern uses. Among the extensive ruins of the Baths of Diocletian was a great rectangular hall, about 78 ft. wide and 190 ft. long, roofed with a groined vault, of which the crown was 93 ft. above the pavement. The masonry both of walls and vault was in good condition, and Pius IV. determined to convert the hall into a Christian church. The work was done by Michael Angelo. Eight noble columns of oriental granite, more than 5 ft. in diameter, still standing along the sides of the hall with their blocks of entablature, formed the basis of the new design, an enriched Corinthian order encircling the church. The hall was lengthened to nearly 300 ft. by the

addition of a square choir at one end and a corresponding bay at the other, and short transept arms were added opening from the centre. Unfortunately for the architecture, the dampness of the situation obliged or induced Michael Angelo to raise the floor 6 or 8 ft., shortening the columns and injuring the proportion of the order. Two centuries later, under Benedict XIV., great changes were made in this simple and grand interior. Under the direction of the architect Vanvitelli, the transept was doubled in length by the addition of a long choir and tribune on one side, and the connection, on the other side, with the church of a circular hall 58 ft. in diameter, a *laconicum* or hot chamber of the ancient baths. The original nave of Michael Angelo thus became the transept of the newer church, of which it forms by far the noblest portion. An extensive Carthusian monastery was established within the area formerly occupied by the baths, its buildings surrounding a great cloister 275 ft. square, enclosed by vaulted arcades in one story supporting a low attic, from Michael Angelo's design. According to the plan, three sides of this court were to be surrounded by the individual dwellings of the monks, entered from the arcades of the cloister and provided each with its small garden. The plan remains incomplete, only one range of dwellings having been built. (*See Fig. 187.*)

Sta. Maria dell' Anima. An interesting Renaissance church of the early XV cent., founded by a German or Fleming in connection with a hospital which still exists, but enlarged and essentially changed a century later under the partial direction of Bramante. Its plan is singular, the breadth of the nave and aisles being equal to their length, about 78 ft.; they are divided into four bays whose height is equal in nave and aisles, the bays of the latter being groined, while those of the nave are covered by a flatter vault intersected by the cross-vaults that rest on the round arches of the nave, which spring from grouped pilasters standing on pedestals and crowned with blocks of entablature. From each bay of the aisle opens, by a great arch as high as those of the nave, a chapel of which the plan is a semi-ellipse, while from the extremity of the nave a single round arch opens into a square choir covered by a flat ceiling, with a cove pierced by two lunettes on each side, and terminating in a round vaulted apse. The palace-like façade, said to date from 1522, and attributed to Antonio da Sangallo, is a square about 78 ft. wide and high, without a gable, in three stages, each caged in a thin order of Corinthian pilasters, the pilasters coupled at the angles, the intervals of the first stage occupied by three doorways under Corinthian orders with pediments.



Fig. 187.—Rome, S. M. degli Angeli.

STA. MARIA IN ARACELI (Ara Cœli), a spacious basilica, probably of the X cent., stands on the brow of the Capitoline Hill. In spite of its commanding position it is much concealed by the adjoining convent and the Capitoline Museum. It is at the top of a long flight of stairs built of one hundred and twenty-four steps, taken in 1158 from the steps of the temple of Quirinus. The exposed façade, of bare brick, stripped of the mosaic which probably once covered it, is only pierced with three doors and two trivial round windows. The broad nave, 50 ft. by 160 ft., has round-arched arcades resting on twenty-two ancient columns of different orders and uneven size, and a horizontal coffered ceiling. The aisles are groin-vaulted and lined with modern chapels; the old pointed windows of the clerestory have been replaced by large square-headed ones over alternate arches. The transept, raised somewhat above the nave, extends unbroken the full width of the lateral chapels, and the original apse is replaced by a deep modern square-ended sanctuary or choir, flanked by chapels. Against the piers at the triumphal arch stand two remarkable ambones in the style of the Cosmati, which once stood each side of the nave. One bears an inscription claiming it as the work of Laurencius (Lorenzo), who founded the family of the Cosmati at the end of the XII cent., and his son Jacobus. The pulpits are richly adorned with twisted columns, and disks and panels of colored marbles and fine mosaic. In the left arm of the transept stands an octagonal canopy over the position ascribed to the altar of Augustus, from which the name of the church is commonly deduced, and under it is a receptacle of porphyry which once contained, it is said, the ashes of St. Helena. There is dispute over the early history and date of the church, some authorities assigning it to the XIII cent., and others setting it as early as the VI; but probability favors the record cited by Mothes, that it was founded in 988 by the patrician Crescentius. Built for the special use of the Roman Senate, and originally called S. M. in Capitolio, it was in the hands of the Benedictines and was restored under them in the XII cent.; its mediæval aspect dates from the middle of the XIII cent., when Innocent IV. transferred it to the Franciscans, who have since held it and the adjoining convent. Leo X. (1513–22) made it the titular church of a cardinal at about the time when the present gilded ceiling was added to the nave. It has been believed that the church occupied the site of the vanished temple of Jupiter Capitolinus; recent discoveries, however, have convinced most archæologists that the temple (*q. v.*) stood on the southern summit of the hill,

Fig. 188.—Rome, S. M. in Araceli.

while the Araceli covers the original arx or citadel. A second high flight of steps, between the Museum and the Palace of the Senator, leads up to a handsome quasi-Doric arcaded portico, believed to be the work of Vignola, which gives entrance to the convent and its cloister behind the church. (*See Figs. 166, 188.*)

Sta. Maria in Cosmedin, a basilica built into the ruins of a temple identified as the temple of Ceres, Liber, and Libera. Its early history is obscure: it is reported as built in the IV cent. by Damasus, and refitted in the VI by Belisarius for a Grecian colony or school; and was rebuilt about 780 by Adrian I., to whom its present form is most likely due. It is about 55 ft. by 100 ft., and has a nave and aisles without transept, each ending in an apse. Its structure is peculiar, its nave being bordered not by continuous colonnades, but by groups of arches in fours and threes separated by piers of plain wall, and so is one of the earliest instances of the alternation of different supports which became the habit in Lombard and German churches, but has an example in the probably earlier Greek church of St. Demetrius, at Thessalonica. The columns of the nave are mostly antique and irregular, with capitals of various forms. Others, apparently remaining in place from the peristyle of the original temple, are built into the outer walls. The nave is considerably changed, by covering the walls with Renaissance ornament in paint and stucco, and by the insertion of a tunnel-vault beneath the old timber roof. The choir, which extends a good way into the nave, is somewhat raised above the crypt. This is itself a miniature church, with nave and aisles divided by six columns and a pair of piers, a transept, and an apse. Its ceiling is of flat stones, and its walls on three sides are sunk into niches. The nave of the main church retains most of its old pavement of *opus Alexandrinum*, or stone mosaic, as does the choir. Over the high altar is a handsome Gothic ciborium borne on classic columns; behind it, at the back of the apse, the ancient episcopal chair; and in front, at the sides of the choir, two ancient ambones, enriched with mosaics. The narthex crossing the front was remodelled in stucco (1718) by Giuseppe Sardi, in the degenerate style of his time, and a frontispiece built before the nave. The bell-tower, which stands against the right, or southwestern, aisle, is one of the most interesting of the early Roman campanile, and unusually tall, being 110 ft. high or more. It has been ascribed, like the body of the church, to the time of Adrian I., but probably at least the upper five of its many stories, with triple windows divided by shafts, belong to the XII cen-



Fig. 189.—Rome, S. M. in Cosmedin.

tury. In a corner of the vaulted narthex an antique mask, probably from some ancient fountain, is fixed in the wall, and gives the church its popular name of La Bocca della Verità, from a tradition that its jaws will close on the hand of a false witness. The small early porch in front of the narthex, a single groined bay resting on four ancient columns, is, like the rest of the façade, disguised by the alterations of Sardi. Pliny says that the original temple, which was one of the richest in Rome, founded 494 B.C., was the first in Rome to be decorated by Greek artists; its mural paintings were especially admired, and were carefully removed when the temple was rebuilt by Augustus and Tiberius. (*See Fig. 189.*)

STA. MARIA IN DOMNICA, or della Navicella, is a basilica of the first half of the VI cent., rebuilt under Paschal I. in the IX, and restored, it is said, by Raphael. It has a wide nave (36 ft.), with a flat ceiling, arcades resting on nine antique granite columns on each side, and narrow vaulted aisles. There is no transept; the triumphal arch, borne by two columns of porphyry, opens into the apse, or tribune, which retains the original mosaics of Paschal's time. Under the raised choir, which is carried out into the nave, is the usual confessio. The two small apses at the ends of the aisles are perhaps later than the principal one. The walls of the nave above the clerestory are painted by Raphael's assistants. The front has a low open porch or loggia, of five arches and an order of tall Tuscan pilasters on pedestals. The popular name La Navicella is given by a marble model of a galley, said to be copied from an antique, placed in front of the church by Leo X.

STA. MARIA EGIZIACA. See *Temple of Fortuna Virilis.*

STA. MARIA DI LORETO, a Renaissance church built by the community of bakers, commenced about 1507, from the designs of Antonio Sangallo the younger, and finished in 1580 under Giacomo della Duca. Its plan, dictated by the limits of the site, is singular, consisting of a square of about 60 ft. with a trapezoidal addition about 70 ft. deep, containing the choir and sacristy with their accessories. The square portion is finished internally as an octagon, with semicircular niches in the four corners of the square occupied as chapels, three other sides having entrance doorways, and the remaining side occupied by the great arch of the choir. This space is covered by a dome, raised on a drum supported by an order of Corinthian pilasters with arches between. The choir is a rectangle about 22 ft. wide and 30 ft. deep, and behind it is the sacristy, with recesses of varying depth in its sides. The choir is covered with a fine barrel-vault panelled in caissons, and with a semicircular window under the vault, over the roof of the sacristy. The façade is in two stages, the lower having a fine order of coupled Corinthian pilasters on a high stylobate. In the middle interval is an arch, enclosing a high square doorway with pedimented cap on consoles; the side intervals are occupied by niches. The upper portion of the exterior, though picturesquely composed with its dome and cupola, is disfigured by fantastic and extravagant ornament.

STA. MARIA MAGGIORE, one of the five patriarchal basilicas, called also the Liberian Basilica, stands in a commanding position on the crown of the Esquiline Hill, surrounded by an open square, and is the third in importance of the Roman churches. The original church, of the IV cent., is so built about with modern additions that nothing of its early character appears without. The exterior is of travertine. Its principal front, before which stands a great column from the Basilica of Constantine bearing a figure of the Virgin, set up by Paul V., is a palatial façade in several stories, 250 ft. long and 100 ft. high, filled with windows and pilasters

and crowned by a level balustrade, in the baroco style of the middle of the XVIII century. From the centre projects as it were the front of an ordinary Italian church, in two stories—an Ionic order of five bays below with horizontal entablature, narrowing to three bays above of a Corinthian order with arcades, the whole adorned with engaged columns, grouped pilasters, broken pediments, and statues. This covers the original narthex. Behind and under it may still be seen the upper part of the old front of the church, and its coating of handsome mosaics, signed by Phillippus Rusutus, in 1317, and continued by Gaddo Gaddi. From the balcony in the middle of the front it has been the custom of the popes to bless the people of Rome on the festival of the Assumption. A many-storied mediæval bell-tower, presumably of the VII cent., with modern roof, stands over the end of the right aisle, and, from a sufficient distance, groups effectively with the cupolas of the two great lateral chapels beyond it. The rear façade, rising behind an imposing flight of steps from the slope of the hill, is of the previous century, and more interesting. It is also palatial, but treated in two stories, with a lofty order of Corinthian pilasters below, and a high attic and plain pilasters above. The great apse of the tribune projects from the middle, and the cupolas of the chapels make an imposing though divided composition. The interior shows the plan of the original church, comparatively unaltered—a spacious three-aisled basilica, now without transept, and with a deep apsidal tribune. The nave, next in size to St. Peter's and St. Paul's, being some 230 ft. long by 56 ft. wide, and distinguished for the long lines of its horizontal entablature borne by twenty-one columns on each side, is the most impressive of its kind. Its comparatively small height, only about 60 ft., the close spacing of its columns, and the multiplied coffering of its flat ceiling, give



Fig. 190.—Rome S. M. Maggiore, Rear.

it scale, and are seconded by a modern upper order of Corinthian pilasters between the alternate windows and panels of the clerestory. The continuity is only once broken, in the fourth bay from the tribune, where, as appears from the spacing, two of the original columns on each side have been spread apart to make room for arched passages across the aisles to the two great lateral chapels just mentioned, which take the place of a transept. The aisles, of less than half the width of the nave, have modern tunnel-vaults broken by lunettes. The tribune is extended toward the nave by straight walls tangent to the curve of the apse. Its semi-dome is covered with splendid mosaics of the end of the XIII cent., by Torriti, who also executed those in the apse of St. John Lateran. They represent the coronation of the Virgin between groups of adoring angels, with apostles and saints. These are surrounded by arabesque scrolls so purely classical in character as to give color to the thought that the old mosaic background of perhaps the V cent. was left undisturbed. Below are seen, on the inside only, the pointed windows cut in the apse in the XIII century. On the face of the triumphal arch and the walls of the nave are older mosaics, representing scenes from Old Testament history, while those about the arch depict the early life of Christ. These are among the oldest Christian mosaics in Rome, and are supposed to date from the time of Sixtus III., whose name is inscribed over the arch. Benedict XIV. replaced the old ciborium by a rich modern baldacchino, and the confessio and subterranean chapel of St. Matthew beneath it were handsomely rebuilt by Pius IX. The two great chapels which flank the choir, those of Sixtus V. and Paul V., are substantially alike in design, being Greek crosses with arms of small projection, about 70 ft. across within, the central spaces covered by domes resting on octagonal drums and crowned by cupolas, with an interior height of 150 ft. A single order of Corinthian pilasters supports the pendentives and the vaults of the arms; the drums have an order of grouped pilasters with windows between. The interiors are sumptuous with colored marbles, sculpture, and painting. In the middle of the Sixtine chapel is an altar with a tabernacle supported by bronze angels, and beneath it a confessio enclosing five boards from the manger of Christ, brought from Bethlehem in the VII cent., by Theodore I. From them the chapel is called the Capella del Presepe (Chapel of the Manger). Various other chapels line the aisles, among them the curiously planned chapel of the Sforzas, which ordinarily serves as choir. The church was built by Pope Liberius (352–366) on the site of the private basilica of one Sicininus, and was still known as the Basilica of Sicininus when, after the death of Liberius, a bloody fray in the church itself between the adherents of two rival candidates, Damasus and Ursinus, gave the papal chair to Damasus. We are told that

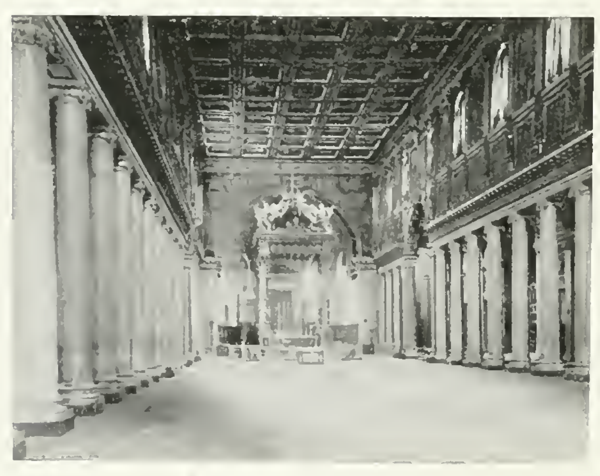


Fig. 191.—Rome S. M. Maggiore.

Liberius was warned in a dream to build a church to the Virgin on the spot where snow fell on an August night, whence it has been also called Sta. Maria ad Nives. This miracle is represented in the old mosaic framed in the front. Sixtus III. (432–40) rebuilt it with great splendor directly after the Council of Ephesus had declared the Virgin to be the real mother of God (Dei Genetrix), and dedicated it to her as Dei Mater. The apse, perhaps the front also, was remodelled in the XII and XIII centuries. Near 1500 Giuliano Sangallo added the coffered ceiling to the nave, gilded, it is said, with the first gold that was brought from South America. The rear façade was added under Clement X., in 1670–76, by Carlo Rainaldi, and the front, in 1741, for Benedict XIV., by Ferdinando Fuga. Domenico Fontana was the architect of the chapel of Sixtus V., about 1583, and Flaminio Ponzio of that of Paul V., called also the Borghese chapel, and of the baptistery, near 1608. The chapel of the Sforzas was designed by Michael Angelo, but finished by Giacomo della Porta, and considerably altered by Fuga when he rebuilt the front. (*See Figs. 190, 191.*)

Sta. Maria sopra Minerva, an ancient church standing on the site of a Roman temple of Minerva, and belonging to nuns of the order of St. Basil, was ceded in 1374 to Dominican monks, and immediately replaced by the present church, which is presumed to be from the designs of Fra Sisto, of Florence, a Dominican, who with his associate Fra Ristoro built the church of Sta. Maria Novella in that city. It is a cruciform church measuring about 130 ft. wide and 300 ft. long, and is remarkable among the churches of Rome for being the only one in the Gothic style. The nave, about 40 ft. wide, is in six square bays, and is separated from the aisles by square piers, with half columns which carry the pendentives of the high groined vaulting, and two others supporting the pointed nave arches. The aisles are divided into oblong bays, from each of which opens a rectangular chapel. They are lofty, and the arcades reach to the springing of the vaults, with only lunettes above them, which are pierced with many-foiled round windows. The original architecture is very simple, the vaulting low, the capitals plain, and the archivolts without mouldings. The transept, which has no projection beyond the walls of the chapels, has a square bay at the crossing and one square bay on each side like those of the aisles. The choir has a simple square bay, flanked on each side by two narrow chapels opening from the transept, and terminates in a polygonal apse, while a modern chapel opens under a round arch from each end of the transept, whose floor is raised above the nave. The church was restored in the XVII cent., under Carlo Maderno, when the façade was partially rebuilt in the Renaissance style; and in 1848–55, a very thorough restoration was carried out, and the interior given an aspect of great richness, the piers and walls being coated with fine marbles, the vaults covered with frescoes in the style of the XIII cent., and the clerestory painted in garish fashion.

Sta. Maria dei Miracoli and Sta. Maria di Monte Santo. These two small churches, alike in their façades and similar, though not identical, in plan and disposition, stand on the Piazza del Popolo at the two corners of the Corso. They were begun about 1662, under Alexander VII., from the designs of Rainaldi, but the façades were added by Carlo Fontana. In plan the one church is a circle, the other an ellipse, surrounded by chapels and covered by a polygonal dome on a high tambour, crowned with a lantern. Each façade has a projecting portico of four Corinthian columns, with pediment, and each church has, on the side next the Corso, a square belfry above the roof, with a somewhat fantastic spire.

Sta. Maria dei Monti, a small Re-

naissance conventual church, built in the latter half of the XVI cent., from the designs of Giacomo della Porta. Its plan consists of a nave about 32 ft. wide and 50 ft. long, flanked on each side by three rectangular recesses, of which two are chapels and the third an entrance vestibule, and opening by a great round arch into a square central space covered by a



Fig. 192.—Rome Sta. Maria della Pace Cloister.

hemispherical dome raised on a high tambour. This is borne on pendentives by four great arches, which open into the nave, the shallow transept, and the semicircular tribune; the whole carried on an order of Corinthian pilasters which surrounds the interior. In the nave the intervals of this order enclose round arches opening into the chapels and vestibules, and from its entablature springs the enriched vault of the ceiling, pierced with lunettes. The façade is in two stages, each carrying an order of Corinthian pilasters, the central interval occupied in the lower story by a doorway with architrave and pediment, in the upper by a window with balustrade, enclosed between Corinthian columns with entablature and pediment. The side intervals have niches and panels, and above them scroll-buttresses flank the narrower upper story. The adjoining College of the Neophytes was added by S. Onofrio under Urban VIII. (1623–44).

STA. MARIA DELLA NAVICELLA. See *S. M. in Domnica.*

STA. MARIA DELLA PACE, a small Renaissance church built by Sixtus IV. in 1487, from the designs of Baccio Pintelli, and restored with important alterations, about 1660, by Alexander VII. Its plan is peculiar, consisting of a nave about 25 ft. wide and 45 ft. long, divided into two square vaulted bays by wide-spaced Doric pilasters, between which open small chapels in the thickness of the wall, two square and two semicircular, while above is a clerestory with a simple round-arched window in each bay. The nave opens into an octagon 45 ft. in diameter, beyond which is a square choir. The octagon has an order of high, thin composite pilasters, in the intervals of which on four sides are the arched openings of square chapels in the thickness of the wall. Above the entablature is a low segmental dome with panelled soffit, raised on a high tambour with Corinthian pilasters and windows between, and carrying a lantern. The barocco façade in two stages, with orders of pilasters and a low pediment, was added under Alexander VII. (1655–67) by Pietro da Cortona. The first story has a projecting semicircular portico of coupled Corinthian columns. Attached to the church on the north is a convent with a fine cloister, an admired work of Bramante, 45 ft. square, surrounded by vaulted arcades on the first story, and on the second by an open corridor with grouped composite pilasters, the intervals divided by single columns. (*See Fig. 192.*)

STA. MARIA DEL POPOLO, a Gothic

cruciform church of the early XIII cent., but rebuilt in 1471 under Sixtus IV., from the designs of Baccio Pintelli. Its nave and aisles are in four bays, square in the nave and oblong in the aisles, covered with four-part vaulting, and are separated by clustered piers carrying round arches. The transept, in three square bays, has a semicircular apse or tribune at each end. The crossing is covered by an octagonal dome. The choir is very long, and has three square bays and a semicircular tribune of the full width of the nave. Its ceiling is painted with frescoes by Pinturicchio, and on its walls are two tombs of similar design, of extreme richness and elegance, by Andrea Sansovino, the tombs of Ascanio Sforza and Hieronimo Basso. The choir is flanked on each side by two long chapels opening from the transept. The church is remarkable for the richness of its chapels, of which four open from each aisle. These are all characterized by great elaborateness of design and decoration, but two of them, the Chigi chapel on the left, and the Cibo chapel on the right, surpass the rest in sumptuousness of material and profusion of ornament. The latter, in the form of a Greek cross, is from the designs of Carlo Fontana; the former, an octagon covered by a dome, is attributed to Raphael, and the mosaics of the dome are believed to be from his designs. The façade of the church is of simple design, in three vertical divisions marked by flat Corinthian pilasters on a pedestal-course, with three square doors in the intervals. The centre is carried up with two angle pilasters and a round window, finished with a low pediment, and flanked by broken curved half pediments of corrupt design. (*See Fig. 193.*)

STA. MARIA DELLA ROTONDA. See *Pantheon*.

STA. MARIA SCALA CELI, one of the three churches at the Tre Fontane, is a small octagonal church designed by Vignola for Cardinal Alessandro Farnese on the site of an older one, and has the charm of proportion that belongs to all of Vignola's work. It is an octagon with its cardinal faces brought forward in reveals, against three of which apses are built, and against the fourth an entrance porch, the whole crowned with a low octagonal dome and cupola. The porch has an order of Tuscan pilasters whose cornice is carried round the church, and above this is an attic with a plain modillioned cornice, and pinnacles at the angles. Within, the dome is semicircular in section, and carried on an order of Corinthian pilasters.



Fig. 193.—Rome S. M. del Popolo, Sforza Monument.

In the three apses are altars, and in the intermediate sides are niches with windows above them. One apse is decorated with mosaics by Zuccheri. The original church was built over the cemetery of St. Zeno, to commemorate a vision of St. Bernard in

which he saw angels leading up a ladder the souls which his prayers had released from purgatory. The altar at which the vision occurred is preserved in a subterranean chapel under the church. (See also *S. Paolo alle Tre Fontane.*)

STA. MARIA DEL SOLE. See *Temple of Hercules.*

STA. MARIA IN TRASTEVERE is historically one of the oldest churches in Rome, and one in which very complex changes have taken place. It is a three-aisled basilica of moderate size and plain exterior, with a transept as wide as the aisles. It has a modern portico of Ionic arcades covering doors framed in fragments of ancient arabesques, above which rises the old front of the nave adorned with mosaics of the XII cent., representing the Virgin and infant Saviour between the wise and foolish virgins of the parable. The interior is a singular patchwork. The nave is about 125 ft. long by 40 ft. wide, with aisles of half its width. It is bordered by twenty-two very irregular ancient columns, with bases and capitals of great variety, Ionic, Corinthian, and Composite. The columns carry straight architraves; the frieze is occupied by concealed brick relieving arches, and above it is a heavy cornice supported by innumerable vertical slices of old entablatures, entirely discordant among themselves, used as brackets. Half the original clerestory windows are stopped, apparently, and the rest altered into arch-headed openings, framed in modern mouldings: the pavement has recently been raised somewhat and the columns shortened, by a new pavement. A gorgeous modern ceiling by Domenichino, carved, gilded, and painted, replaces the old open roofs. The transept, flush with the aisles, has in the middle a modern baldacchino over the high altar, beneath which is a confessio, or rather crypt, containing the remains of Calixtus, the founder of the church, and four others of the popes. The great apse is covered with mosaics of the XII cent. — Christ and the Virgin enthroned between several saints. Below is a series of scenes from the life of the Virgin in panels, ascribed by Vasari to Pietro Cavallini (about 1340), a pupil of Giotto. The triumphal arch is bare of decoration; above the arch of the apse are mosaics of the symbols of the four evangelists, and beside it the prophets Isaiah and Jeremiah. The aisles and transept are overgrown with a great number of modern chapels. A church was founded



Fig. 194 — Rome, Sta. Maria in Trastevere, Choir.

here, it is said, by Calixtus I., in 222, and rebuilt by Julius II. (337–52), restored in 849 by Leo IV., and again by Innocent II. in 1139. Domenichino's ceiling was added about 1630. There has been much controversy over the age of the church as we now see it. Hübsch, Bunsen, and other older authorities believe that it dates only from the restoration of Innocent II.; others, including Mothes, that the main parts are the work of Julius I. (*See Fig. 194.*)

Sta. Maria in Vallicella. This church, more generally known as La Chiesa Nuova—the new church—was built originally by St. Gregory, but having in the XVI cent. fallen into a ruinous condition, was rebuilt by S. Filippo Neri, authorized by Gregory XIII. The work was begun in 1575, and was carried on under various architects, among whom was Martino Lunghi, till the consecration in 1599. The square façade, masking the nave and aisles, is in two orders of grouped Corinthian pilasters, with three doors below and a window and two niches above, all under pediments. A broad low pediment crowns the whole. Its peculiar plan covers an area about 110 ft. by 215 ft. The barrel-vaulted nave is about 44 ft. wide, separated from the aisles by arcades of five round arches on each side with Corinthian pilasters between. The aisles are narrow, in rectangular bays connected by arches, and bordered by semicircular chapels. The transept arms are as wide as the nave, the crossing is covered by a hemispherical dome; the choir has a single rectangular bay with a round apse or tribune beneath which is the rich chapel of S. Filippo Neri. The materials and decoration of the interior are sumptuous, the walls being covered with rich gilding and the vaults and arches with stucco reliefs. The vaults are lavishly decorated by Pietro da Cortona. The adjacent convent, built for the most part from the designs of Borromini, has two great courts, and some fine apartments, notably the sacristy, the oratory, and an oval refectory.

Sta. Maria in Via Lata, a small basilica, with nave 21 ft. wide and groined aisles, built at the end of the VII cent. by Sergius I., much altered in 1491, and again in the XVII cent., and highly decorated. The twelve antique Ionic columns which support the arcades of the nave have been recased and their capitals gilded; the old tribune remains. The front, an admired work of Pietro da Cortona, is a two-story columnar loggia, of a Composite order above a Corinthian, crowned by a pediment, the large central arch breaking the entablature of the pediment, which is carried round it. The crypt, which is part of the ancient Septa Julia, is under the front part of the nave, and reached from the loggia. Legend associates it and the spring which is found in it with the centurion with whom St. Paul lodged. The church contains the tombs of two of the Bonapartes and of other notables. Its name is derived from the original Roman street, which nearly coincided with the Corso.

Sta. Maria della Vittoria, a cruciform church with an octagonal dome, built at the beginning of the XVII cent. by Paul V., chiefly from the designs of Carlo Maderno, with a façade by Giovanni Battista Soria. The façade, rising from a high flight of steps, has two stages each with an order of Corinthian pilasters, coupled in the central division and enclosing an enriched doorway with a sort of porch surmounted by a broken pediment; the side intervals are decorated niches. The upper stage has only the breadth of the nave, with a central arched window enclosed in pilasters and pediment. A low pediment with a balustrade following its rake, covers the whole of the upper stage, which is flanked by large consoles.

S. Martino ai Monti, an old basil-

ica, built by Symmachus in 500, altered in the middle of the IX cent. by Popes Sergius II. and Leo IV., restored at the end of XIII, and much modernized in 1650–76. Of the original church we may still see the open atrium and the twenty-four ancient Corinthian columns that line the broad nave. These stand on pedestals and carry a horizontal entablature. The flat ceiling above is due to S. Carlo Borromeo. The aisles have in like manner horizontal ceilings, and there is no transept. The apse may be part of the church of Symmachus, or even of an earlier church which is said to have been built here by Pope Sylvester in the time of Constantine. The choir, which extends into the nave, is considerably raised, and in front of it an open well and stairway lead to the crypt, elaborately restored in 1650 by Pietro da Cortona. From this again a passage leads to a subterranean groined room on the north, which is believed to have been part of the baths of Trajan, used as a very early church, over which is the handsome vaulted sacristy. The church is richly decorated, and on the walls of the aisles are landscapes and figures by the two Poussins, also interesting paintings of the interiors of the old basilica of St. Peter, and of St. John Lateran in its early condition.

SS. Nereo ed Achilleo, one of the lesser basilicas, built near 800 by Leo III., and restored from a state of great dilapidation in 1597 by Cardinal Baronius, with an effort to preserve its ancient character according to the light of his day, but pretty thoroughly modernized in its present condition. It has the simplest possible façade, following the outline of the nave and aisles, stuccoed and once painted, with a pedimented porch on two Tuscan columns against the nave and a pedimented window over it. There is no transept; the nave, 27 ft. wide, is separated from the aisles by six broad low arches, on octagonal piers with stucco capitals and supporting high walls. The low roof is open-timbered. The choir-apse is ancient, and about it remain some early mosaics representing the Transfiguration and the Annunciation. The ancient arrangement is seen in the raised choir, inclosed in a screen, under which is the confessio containing relics of saints, among them those of Sta. Domitilla, to whose attendants, Nereus and Achilles, the church is dedicated. The mediæval ambones remain, and the altar and tabernacle, which stand under a modern baldacchino.

S. Niccolò in Carcere is a small basilican church of the IX cent., with transept and apse, much modernized, and so called from its position near, or as has been thought upon, the site of the prison of Appius Claudius. It is built on the foundation of a group of ancient temples, its arcades, according to Mothes's examination, following the lines of one cella wall, and some of the original columns remaining *in situ* on the front. This may account for the narrowness of the nave, which is only 22 ft. by 90 ft., and has its arcades carried on irregular columns from various buildings. The whole interior width is 60 ft. The irregular aisles, nearly as broad as the nave, and covered with barrel-vaults, imbed in their walls the lateral columns of the adjoining temples of Spes and Juno Sospita. The modern campanile stands over the end of the right aisle, beside the front, which dates from 1599. The church has lately been restored: its nave-walls are covered by paintings of scenes from the life of St. Nicholas, and the choir with pictures of the Council of Nice. In the crypt appear the substructions of the ancient temple. (See *Temples of Spes and Juno Sospita.*)

S. Onofrio, a small church on the Janiculan hill, belonging to the adjoining convent of the Girolomini, or monks of St. Jerome. It was a late Gothic church,

built in 1429: its original style has disappeared under many alterations. It consists of a nave of three nearly square bays, groin-vaulted, with aisles which have been divided into chapels, and a Renaissance tribune. A square campanile is set into the N. E. angle of the front, which faces north, and an open vaulted porch connects with an arcade in the front of the convent. The church is noted as the burial-place of Tasso, who died in the convent. His body lies under an elaborate tomb lately built in the chapel of St. Jerome. The tribune is painted in three tiers of pictures, the lower by Peruzzi, the upper probably his also, though they have been attributed to Pinturicchio.

S. Pancrazio was built at the beginning of the VI cent. by Pope Symmachus, but has been since many times rebuilt, last after the siege of Rome in 1849, when it was particularly exposed by its position outside the Porta Aurelia. It retains its old apse and the confessio beneath the choir, reached by a double staircase. Some of the original arcading of the nave also remains, and shows the arrangement, unusual in Rome, of piers alternating with pairs of columns. Some fragments of the early ambones are incorporated in the modern pulpits.

S. Paolo fuori le Mura (St. Paul outside the walls). This great basilica, a mile or more outside the Porta S. Paolo, was recently built to replace the famous one of the age of Constantine, which was burned in 1823. It follows the lines and dimensions and structure of the old one, varying somewhat from it in details. It is a great five-aisled basilica with transept and a large tribune. The whole length, without the tribune, is about 400 ft., the breadth across transept 250 ft., across the nave and aisles 220 ft. The exterior is plain, except the front, toward the Tiber, where the end of the nave retains in some degree its old mosaics, carefully restored since the fire, and representing Christ with St. Peter and St. Paul, and the four great prophets below. The atrium in front, still unfinished, is to be surrounded by open arcades on granite columns. A portico of eight Corinthian columns against the north transept marks the entrance toward Rome. Within, the nave and aisles are separated by four rows of great granite Corinthian columns, twenty in each, carrying arcades. The enormous nave, 80 ft. wide and about 100 ft. high, is nearly 300 ft. long. The cornice above its arcades is continued in an entablature round the impost of the triumphal arch, which remains from the old church and is supported by two Ionic columns larger than the rest. The mosaic over the arch, representing Christ and the twenty-four elders, is reproduced from the previous one, damaged in the fire, which was put up, it is believed, by Galla Placidia, sister of Honorius, in 440. Above the main arcades is a series of medallions extending into the transept, and containing portraits in mosaic of the popes. Between the pilasters which decorate the clerestory walls, and alternating with the round-arched windows, are pictures from the life of St. Paul by modern Italian painters. The coffered horizontal ceiling above is richly carved and gilded. The great nave, almost unequalled in width, but somewhat low in proportion, the double aisles and countless columns, produce an effect of extreme spaciousness and intricate perspective, and the sumptuousness of the walls and clerestory contrasts singularly with the rather cold grandeur of the lower architecture. In the transept, behind the triumphal arch, is the fine old Gothic ciborium over the high altar, covered by a recent baldacchino rich with oriental marbles and malachite. Inscriptions on the ciborium declare it to have been built by order of Abbot Bartolomew, in 1285, and that it was the work of Arnolfo and his fellow Pietro. This is believed to mean Arnolfo di Cambio, architect of the

cathedral at Florence. Under the altar is the small *confessio* or niche containing the bones of St. Paul, except the head, which is preserved in the Lateran. The apse behind the altar retains its mosaics of the XIII cent., representing Christ surrounded by Peter and Andrew, Paul and Luke, with Honorius III. at his feet. Over the triumphal arch, on the side next the transept, are the original mosaics, only in part restorations, showing Christ between Peter and Paul. The rest of the transept is decorated with modern paintings.



Fig. 195.—Rome, S. Paolo fuori le Mura.

The Convent adjoining the church belongs to the Benedictines. It has one of the finest and best preserved of early cloisters, much like that of St. John Lateran, in the manner of the Cosmati. This encloses a rectangle of about 70 ft. by 80 ft., with an arcade supported on delicate coupled columns. The arches, standing above a continuous stylobate, are grouped in fours between heavy pilasters, and carry a complete entablature. The forms and details are mostly classic, but the composition and proportions very unclassic : the entablature is very heavy, the columns, coupled in the thickness of the wall, are slight, with thick abaci of mediæval proportion, the shafts now plain, now twisted, now inlaid with mosaic. The high frieze is richly inlaid throughout with elaborate mosaic in interlacing bands. The architrave bears a continuous inscription in rhymed hexameters, telling that the cloister was begun by Peter of Capua, afterward cardinal, and finished by John of Ardea. Peter of Capua and John of Ardea were abbots of the monastery from 1193 to 1241, which fixes an appropriate date for this work. The original church of St. Paul is said to have been founded here in 324. A rebuilding was begun under Valentinian, in 386, and completed in 397 under Honorius. Galla Placidia, Honorius's sister, adorned it with mosaics, and, it has been said, reversed the orientation, which now turns the front to the west, against the rule of the earliest churches. The mosaics of the tribune are

ascribed to Honorius III. (1216–27). No serious changes had been made, apparently, from that time till its destruction in 1823. The transept was restored by the architect Belli, in 1828–40, and the nave rebuilt in 1841–50, by Poletti. One or two of the original chapels still remain as before the fire, notably that of the Coro, on the right of the tribune, designed by Maderno. A new chapel has been added on the other side of the tribune, by Poletti, and a new campanile built against its north side. (*See Figs. 195, 196.*)

S. Paolo alle Tre Fontane. This small church, adjoining that of SS. Vincenzo ed Anastasio, was built about 1590 for Cardinal Aldobrandini, by Giacomo della Porta, to cover the three fountains that sprung up in the places where St. Paul's head bounced three times after it was cut off. It is of peculiar plan, consisting of a transverse nave, or what may be called a detached transept, standing between an apse and a small entrance porch. This transept has a shallow apse and altar at each end, and the fountains spring from three niches, in the principal apse and in the wall of the transept on each side of it. The design is simple, the interior being covered with a tunnel-vault broken by lunettes, and the exterior and interior ornamented with a single order of pilasters. (See also *Sta. Maria Scala Celi.*)

St. Peter's, the so-called Basilica of S. Pietro in Vaticano, the largest and most imposing of Christian churches, is magnificently placed at the western end of a large open square, the usual orientation of Christian churches, negligently followed in Italy, being here reversed, and the façade fronting the east. It is approached through two successive courts nearly a quarter of a mile in length (*see Fig. 197*)—first a great oval more than 700 ft. broad, lined with open porticoes of four rows of Tuscan columns, next an open-fronted quadrangle some 400 ft. deep, its sides faced by galleries which continue in pilasters the order of the open colonnades, and which enclose at the end the façade of the church. This façade is a plain rectangle, some 380 ft. long by 150 ft. high, composed of a single gigantic Corinthian order 108 ft. high, standing on a stylobate of 18 ft. and crowned by a tall attic. It is a simple, straight front, divided by pilasters, with level sky-line, and only slightly broken by a portico of four engaged columns carrying a pediment, which covers the end of the nave. The simplicity of the front is relieved only by the decorations of the doors, windows, and niches that occupy the intercolumniations, and by the statues and the trophy-like clocks that crown the balustrade. Five doors give entrance to the front, approached by a great stone platform, to which steps lead up on three sides. The Corinthian order which decorates the front is carried round from the nave and choir, being, in fact, the order designed by Michael Angelo, which envelops the whole church. The exterior is built of the warm yellow travertine which is the



Fig. 196.—Rome S Paolo fuori, Cloister.

principal building-stone of Rome. From any possible outside position the cruciform disposition, shown within by the dominating height of the nave and transept, is entirely lost, the walls being carried up uniformly to the height of the nave vault, so that the building, with its three tiers of windows, is a huge palatial mass, to three sides of which cling majestic round apses, and to the fourth the advancing nave, while out of the middle soars the great dome. The substructure of the dome is a round drum, which serves as a stylobate and lifts it above the surrounding roofs. On this stands the ring-wall of the tambour, decorated with a Corinthian order and carrying an attic, and on this sits the oval mass of the noblest dome in the world. The tambour, 50 ft. high, is pierced by sixteen square-headed windows. The enormous thickness of the stylobate allows an outside offset sufficient to receive the buttresses, which are set between the windows, in the shape of spur-walls with engaged columns at the corners, over which the entablature is broken. The curve of the dome, higher than a semicircle, is of extraordinary beauty. Between its ribs, corresponding to the buttresses below, are three diminishing tiers of small dormer windows. The lantern above, with an Ionic order, repeats the arrangement of windows and buttresses in the tambour below, and is surmounted by a Latin cross, rising, it is said, 448 ft. above the pavement. The sacristy, adjoining the south transept, and connected with the church by two galleries, would itself be an imposing building anywhere but under the shadow of St. Peter's. The galleries lead to a central building in which are three great and richly adorned halls serving as special sacristies, the middle one octagonal and covered by a dome with a cupola 150 ft. high. The rest is a pair of tall, many-storied wings which enclose a court, and in which the canons are lodged.

But the glory of the church is its interior. The plan is simple—originally a Greek cross with long arms and apsidal ends, its centre covered by the great dome, resting on four piers, outside which runs a broad square aisle intersecting every arm of the cross. To this is prefixed the nave of three additional bays, with aisles and lateral chapels, the whole preceded by the spacious narthex in two stories which crosses the front behind the façade. One enters from the front by the narthex, a great vaulted gallery or hall, 40 ft. wide, and 340 ft. long, including the two lateral vestibules at either end, in which stand equestrian statues of Constantine and Charlemagne. It is sumptuously ornamented in stucco and gilding. Over the middle entrance is a famous mosaic, executed in 1298 by Giotto for the original basilica of St. Peter. It is called the Navicella, and represents St. Peter walking on the sea, but is much transformed by restorations. Five doorways lead into the church, corresponding to those in the façade, and the central one, opposite the Navicella, which is used only for great ceremonies, is closed by two bronze doors, likewise from the old basilica, the work of the architect Filarete, and Simone Ghini, sometimes called without warrant the brother of Donatello. The modulus of the interior is the immense Corinthian order, 100 ft. high, corresponding nearly to the external order, which carries the vaults of the nave, choir, and transept, and the pendentives of the dome. The nave is of 85 ft. span and 300 ft. long, in four bays divided by massive piers with arches 40 ft. wide. Each pier is faced with two pilasters, carrying a full entablature on which rests the coffered tunnel-vault 150 ft. high. The same ordinance and the same vault are carried through the other arms of the cross. An inscription on the marble floor at the middle door records the whole inside length from the back of the tribune, 857 palmi, or

614 ft.; 96 ft. added to this give the extreme outside length, 710 ft. The breadth across the transept is, by Fontana's plans, 445 ft. inside, 485 over all. Large segmental-headed windows, cutting into the vault like lunettes, give it light. The aisles are divided by cross-arches in two stories into bays which are covered with small oval domes, and which open into lateral chapels. From the third bay on each side opens a very large rectangular chapel, 45 ft. by 80 ft., with a vaulted ceiling, and decorated with great richness, that on the south called the Gregorian Chapel, or choir-chapel, that on the north the Chapel of the Holy Sacrament. The nave leads to a rotunda between the four colossal piers, really towers 62 ft. square, which carry the pendentives of the dome. At the junction of the three added bays of the nave the plan expands with marvellous effect. The great piers are isolated in a vast square; the quadrangular aisle that surrounds them is nearly 50 ft. wide—as wide as any church naves but the widest—and about 300 ft. long each way, its angles marked by small domes. Great arches 150 ft. high and 80 ft. wide open into the rotunda, whose height and amplitude are overpowering. The modillioned cornice of the entablature that encircles and crowns the pendentives, is 175 ft. high above the floor. It carries the tambour, decorated with a Corinthian order corresponding to that outside, and having coupled pilasters in the intervals of the sixteen windows, which are capped by pediments. From an attic above the order springs the inner shell of the dome, somewhat lower in curve than the outer, ribbed and panelled, and showing the interior of the lantern through an opening at the top. The clear span of the dome is 140 ft., the height 330 ft. to the opening of the lantern. The interior of this, 60 ft. high and covered by a small dome, is too much foreshortened by its position to be clearly seen from below. In the centre, over the high-altar, is the monstrous bronze baldacchino, baroco in style, and 95 ft. high, designed by Bernini, who also added the preposterous throne, or shrine, supported by statues of four early fathers of the church and encompassed by a swarm of cherubs riding on bronze clouds, which incloses the legendary chair of St. Peter, and occupies the western tribune. The interior architecture is mainly of stucco enriched with gilding—the great order, the panelled vaults and architectural details, and the interior of the dome. But the pendentives and panelling of the dome are rich with mosaics; in the pendentives are round panels charged with huge mosaics representing the four evangelists. The church abounds in altars and tombs, built of colored marbles and niched into the intercolumniations. Popes, kings, and saints are buried here. Hundreds of statues stand about the tombs and altars, or fill niches, or slide down the backs of archivolts; sub-orders of columns, niches, pediments, balconies, enliven the wall-spaces of the piers. In front of the baldacchino a double horse-shoe staircase leads down to an open space in front of the high-altar, called the Confessio, which serves as anteroom to the labyrinthine crypt, and which shows in a niche under the altar the tomb of St. Peter. The crypt is in two parts—first, the three-aisled crypt of the old basilica, extending eastward under the nave; second, an oval gallery encircling the middle space in which are the confessio and the cruciform Chapel of the Confession, and communicating with four radiating passages which lead to four chapels in the foundations of the great piers, and to as many staircases for access to chapels above. In the old crypt are many tombs of popes and other dignitaries, removed thither when the old basilica was pulled down.

The church occupies the site of one of the earliest and most venerated of Chris-

tian basilicas, that built by Constantine over the Circus of Nero, a place consecrated by the blood of the early martyrs, and covering the adjacent tomb or Martyrium of St. Peter, which, according to tradition, is that which is still preserved. Constantine, the tradition says, passing the place in his triumphant entry into Rome after his defeat of Maxentius, vowed a memorial church to St. Peter, and not long after laid the corner-stone with great solemnity. It was the largest, if not the oldest, built in 324–330, a five-aisled church, not far from 400 ft. long and 200 ft. across, with transept projecting to 270 ft., and a nave 70 ft. wide. Its decorations and furniture, destroyed and dispersed at or before its destruction, were the wonder of pilgrims and church historians during the middle ages. This church, built in haste, on infirm ground and at a time of decadence, required constant repairing, and after eleven hundred years of care, varied by occasional neglect and even ill usage, had become so unsound that in the middle of the xv cent. Nicholas V. resolved to build a new church, which should, he said, equal in magnificence the Temple of Solomon. He summoned from Florence the architects Bernardo Rossellino, and Alberti. Between them they planned an enormous church which was intrusted to Rossellino, and in 1450 work was begun on the tribune of it behind the apse of the old basilica. Nicholas died in 1455, when the walls of the new apse were barely seen above ground, and no pope resumed the project till Julius II. He, early in his reign, having commissioned Michael Angelo to build him a splendid tomb, and casting about for a place to put it, decided to take up the project of Nicholas. Architects were called into council — the two Sangalli, Peruzzi, Fra Giocondo, and Bramante. The last, then in the fulness of his fame, prevailed. Flushed with enthusiasm for the revival of classical architecture in its purity, and full of audacious conceptions, he resolved to build a more splendid church and more strictly classical than had yet been built, proposing to himself, we are told, to "set the dome of the Pantheon upon the arches of the Temple of Peace." Pope and architect fell to work with equal eagerness, Julius to raise money by the sale of indulgences all over Europe—which specially roused the indignation of Luther, and did more, perhaps, than any other thing to precipitate the protestant Reformation—Bramante to pull down the old basilica and begin the new.

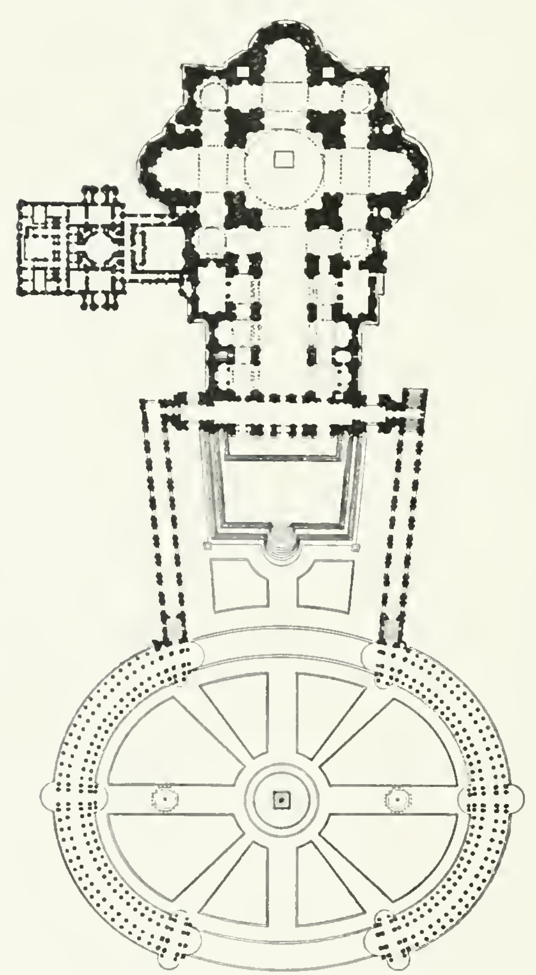


Fig. 197.—Rome, St. Peter's with its Colonnades



Fig. 198.—Rome, St Peter's.

The corner-stone was laid, in the foundation of the S. W. pier of the dome, on April 18, 1506. Bent on realizing his main conception of the dome, Bramante pressed the construction of the four great piers and their arches so eagerly, that at the time of Julius's death, in 1513, they were nearly ready for its base. But the effects of haste and of inadequate construction showed themselves in serious settlement and cracks. Bramante died a few months after Julius, leaving the work in this condition. It would appear that his designs were lost or destroyed, and it is in dispute whether he intended a nave and aisles, and what form he would have given to the outside. Serlio published, half a century later, a plan which he ascribed to Bramante, but it is more likely that it was a modification proposed by Raphael, whom Bramante on his death-bed recommended as his successor to Leo X., the new pope. It is probable that Bramante's plan, like Michael Angelo's, was for a Greek cross, and it seems hardly doubtful that he designed the church with a single order within and without, as it was executed. In this innovation, followed by Michael Angelo, he set a fashion which greatly changed the course of Renaissance architecture, abandoning the older treatment of a smaller order in each story, and bringing the style back, as they argued, to the simplicity and dignity of classic models, though some modern critics, M. Geymüller for instance, restore it with two. Raphael was appointed in Bramante's place, and Giuliano Sangallo and Fra Giocondo were also called in. All three died successively in the next half-dozen years, Raphael last, leaving a plan behind him; but nothing had been accomplished except to strengthen the inadequate construction of Bramante. Baldassare Peruzzi, and Antonio Sangallo, the nephew of Giuliano, were next appointed. To diminish the cost, Peruzzi again changed the plan, omitting the long nave proposed by Raphael, and restoring the Greek cross. His plan, preserved by Serlio, was in the main like that which was afterward adopted by Michael Angelo, but more

complicated. Nothing of importance seems to have been accomplished till the pontificate of Paul III. Peruzzi died in 1536, and Paul, taking up the project anew, ordered a new design of Sangallo. His elaborate model, 26 ft. long and 15 ft. high, is still preserved, and shows a radical change of design. He prefixed an enormous narthex, flanked by two high towers, and reverting to the earlier Renaissance manner, carried two small orders, separated by a mezzanine, over the whole design, instead of the single great order of the previous architects. But in 1546 he also died, having done little but to prepare his design, and still further strengthen the inadequate masonry of Bramante. At this point Paul summoned Michael Angelo, who had found fault with Sangallo's design, calling it Gothic in character, and in spite of his repeated refusals insisted on bringing him from Florence to take charge of the work. Michael Angelo at last consented, and in a fortnight prepared a new model, which, like Sangallo's, is still preserved. He simplified Peruzzi's plan, struck off Sangallo's narthex, substituting a plain portico of detached columns, and restored the single great order as we now see it. For the rest of his life he gave himself up to this work, turning off the jobbers who, as appears, had fastened themselves upon it, refusing every year the fee that was offered him for his services, maintaining his position and the confidence of four successive popes, in spite of detraction, intrigue, and calumny. He began, like his predecessors, by further strengthening Bramante's unlucky piers, pulled down the small additions of Sangallo, and in the course of his seventeen years' administration succeeded



Fig. 199.—Rome, St. Peter's, Rear.

in carrrying up the walls and facing them with the exterior order, establishing the interior order, building the pendentives and stylobate of the dome, and constructing a model of the dome itself so thoroughly detailed that there was no excuse for departing in any degree from his intentions. Near the end of his administration Vignola and Pirro Ligorio were appointed to assist him, and when in 1564 he died, at the age of eighty-nine, they succeeded him on the express condition that they should make no change in his design. Ligorio was soon discharged by Pius V., then pope, and Vignola, left in authority, scrupulously carried out the design, finishing the exterior all but the façade, including the tambour of the dome with its order, and building two of the four small cupolas with which Michael Angelo had proposed to surround it. Vignola died in 1573, and the work languished till the accession of Sixtus V., who appointed Giacomo della Porta, a pupil of Vignola, and Domenico Fontana to continue it. They, with Sixtus's permission, changed the curve of the dome, giving it the superb outline which distinguishes it from all others, and pressing it with great energy, finished it in two years, so that Sixtus, in 1590, laid with great ceremony the finishing stone of the ring that was to support the lantern. Fontana meanwhile had won reputation by transporting and setting up the great obelisk in the square in front, and Della Porta, who was a clever designer of ornament in stucco, had adorned the interior. The lantern was added under Clement VIII., but it was not till Paul V. that the façade was undertaken. He, finding the length of the nave inadequate for the crowd that attended the great festivals, and insisting that the whole consecrated area of the original basilica should be included, called a new competition, in which the project of Carlo Maderno, a nephew of Fontana, was chosen. He added three bays to the nave, so reverting to the plan of the Latin cross as proposed by Raphael, and built the façade, which bears the date MDCXII. The next pope, Urban VIII., appointed Bernini to finish the work, who continued the interior decoration, and later, under Alexander VII., added the splendid porticoes and galleries that lead up to the façade. He also made the statues of Constantine and Charlemagne that occupy the two vestibules. Maderno had attempted to add two towers on the flanks of his façade, but had blundered so in his foundations, that he gave it up as impracticable. Bernini unwisely undertook to carry out Maderno's plan, and was soon stopped by the failure of the masonry. This was made a pretext for displacing him by Borromini, who thus got the opportunity to adorn the interior with the sprawling colossal figures in stucco that disfigure the nave. Alexander VII. reappointed Bernini, and his additions practically finished the great work which had been in hand for two centuries, under thirty popes, and fifteen architects, the most distinguished of their time. The only important later addition was the sacristy, by Marchioni, in 1776–84. The men whose hands are distinctly seen in the result are Bramante, Michael Angelo, and Bernini in right of their talents, and Maderno by virtue of his opportunity. To Bramante belongs the great conception, so firmly held and so clearly set forth that, except for the momentary aberration of Antonio Sangallo, none of his successors thought seriously of departing from it; to Michael Angelo the form in which the conception was embodied, the details of the plan, the design of the outside and inside orders, and of the dome, with its peristyle of buttresses and its lantern; to Maderno the first serious departure from the intention of his great predecessors, probably enjoined upon him by the pope, and the commonplace façade; to Bernini the noble approach. It is uni-

versally recognized that the design of Bramante and Michael Angelo is greatly injured by the lengthening of the nave, which covers the dome from the accessible points of view, and hides the grouping of the principal parts of the church. It must be said, however, that the great artists to whom the church owes its splendor also contributed each in some way to diminish its effect; for the single great order, for which both Bramante and Michael Angelo are responsible, while it adds dignity to the design, undoubtedly tends to dwarf it and prevents its scale from being appreciated. The grandeur of the design appears, not from the front, but from some point in the rear where the dome can be seen in combination with the apses that surround it. Inside, the length of the nave adds to the effect of the church, but the enormous scale of the principal order is even more deceptive than outside, and almost every visitor feels the church to be smaller than he had expected. The difficulty is increased by the colossal size of the sculptured figures in the decoration, which suggest a false scale, and mislead the spectator's judgment. Bernini, too, contributed his miscalculation, for instead of making the long galleries which connect his colonnades with the church parallel to each other, and at right angles with the front, he made them converge from it. The effect to one who approaches the church is to apparently shorten them and make it look nearer than it is, and therefore smaller. But familiarity, and especially the presence of a crowd of people, enable the spectator to comprehend the size of the interior, and the final impression is one of overwhelming grandeur. Many faults have occurred in the construction of the church. The foundations of Maderno's front were out of line and so weak, as we have seen, that the tower which Bernini

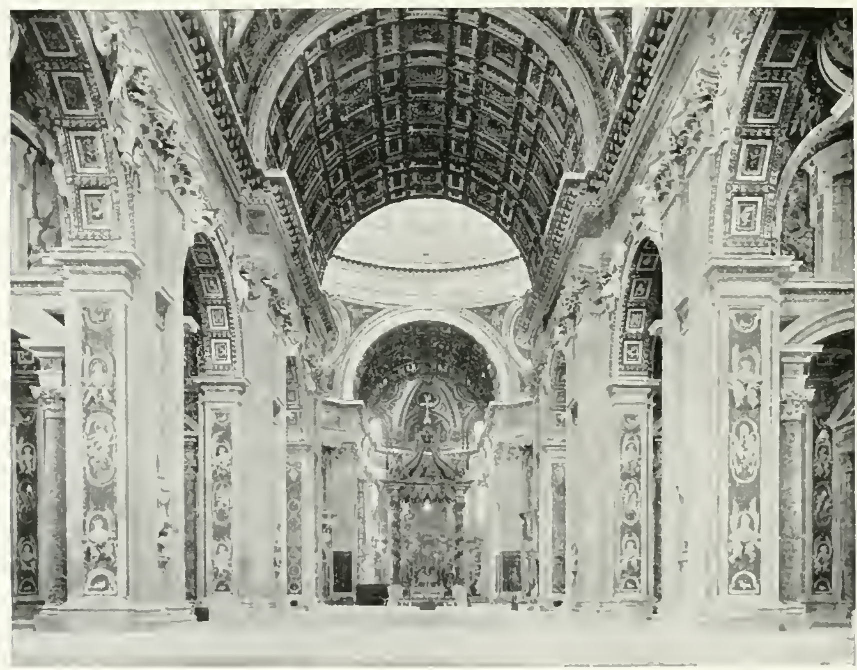


Fig 200.—Rome, St Peter's.

tried to build on them had to be taken down. Bramante's piers were strengthened again and again by his successors, and only when they were finally reinforced by Michael Angelo, were thought strong enough to carry the dome. Built of solid stonework, they would have sufficed with half their present size; but they are of rubble and concrete, faced with plaster. A century after the church was finished it appeared that there were serious cracks in and under the dome. A council of architects and engineers was called, who decided that the tambour and dome must be strengthened by iron bands, and this was accordingly done at four or five levels. Cracking and splitting of the masonry has gone on slowly but continuously since that time; and a commission appointed to examine the dome some years ago, reported that the structure had seriously deteriorated in consequence. Under these conditions, it requires a sanguine spirit to trust that the great work of Michael Angelo will last as long as its predecessor, the basilica of Constantine. (*See Figs. 197–200.*)

S. Pietro in Carcere is the name given by the Church to the upper of the two chambers excavated in the rock of the Capitoline Hill, and known as the Mamertine Prisons (*q. v.*). It is a rectangular apartment about 30 ft. long, 22 ft. broad, and 14 ft. high, enclosed in a wall of rugged Etruscan masonry, of which the courses overlap horizontally so as to close in a false vault. The place was in use as a Christian basilica as early as the IV cent., and in 1475 was converted into a simple oratory under the direction of Baccio Pintelli, and dedicated to St. Peter, who, according to the tradition of the Church, was here kept in confinement under Nero. An ascending staircase of twenty-eight steps connects the chamber with the church of San Giuseppe dei Falegnami. (See *Mamertine Prisons.*)

S. Pietro in Montorio, a Renaissance church, stands in a commanding position on the Janiculum, occupying, it is said, the site of an older one founded by Constantine to mark the spot of the crucifixion of St. Peter, and was rebuilt at the end of the XV cent., at the instance of Ferdinand and Isabella of Spain, from the designs of Baccio Pintelli. It consists of a single rectangular nave about 32 ft. wide and 90 ft. long, divided by pilasters and transverse arches into three square bays covered with four-part vaulting. On the sides of the first and second bays of the nave are small semicircular chapels, two to each bay. From the sides of the third or easternmost bay open semicircular tribunes or apses, occupying the place of transepts, but appearing from without only as chapels, and its eastern end extends into a choir consisting of a single rectangular bay, terminating in a vaulted polygonal apse. The exterior design is of great simplicity. The façade is a plain flat wall of stone in two stories, with angle pilasters and a low gable; in the centre of the first story is a simple square doorway, above it a small wheel-window. The sides are divided by pilaster-strips into four compartments, each with a plain round-arched window. The apse is absolutely plain. On the south side of it rises a square campanile with an open arched belfry and pyramidal spire. Attached to the church on the north side are two square cloisters surrounded by vaulted arcades, the first containing in the centre of the enclosure the famous round temple (Tempietto), built in 1502 from the designs of Bramante, and presumed to mark the exact spot where the cross of Peter's martyrdom was set up. It is a circle of about 20 ft. diameter, surrounded by a Doric colonnade of sixteen columns and covered with a hemispherical dome on a high tambour. The interior has an order of Doric pilasters with four niches in the alternate intervals. Under the temple is a crypt with its walls

divided into panels by pilasters, and with a low vaulted ceiling panelled and richly decorated with reliefs in stucco. Bramante projected a rebuilding of the cloister with a circular colonnade concentric with that of the temple, but the design was never carried into execution.

S. Pietro in Vincoli (St. Peter in Chains), called officially the Basilica Eudoxiana, is a plain basilica of the v cent., consisting of a nave, aisles, and transept with three eastern apses. It is mostly covered by adjacent buildings, and the exposed front added by Baccio Pintelli is very simple—an open arcade of five bays carried on grouped pilasters, with a plain story of as many square-headed windows above. The nave is spacious but short, being 50 ft. by 125 ft. The aisles are of less than half the width of the nave, and the main arcades are unique, having narrow arches that rest directly on two rows of ten slender Greek-Doric columns of Parian marble, perfectly uniform, whose shafts are monoliths, and provided with bases. The old decoration and the old windows of the nave have been displaced, the walls stuccoed over, and a vaulted ceiling added in modern times. The triumphal arch is borne by two Corinthian columns backed by grouped pilasters. The principal apse, or tribune, retains the ancient bishops' chair, but has lost the lining of marble and mosaic which probably once covered it. The vaulting of the transept is modern, and probably that of the aisles. In the right arm of the transept is the famous monument of Julius II., who, however, is buried in St. Peter's. It is but a fragment of the original design, and its principal interest is in the statue of Moses, by Michael Angelo, which is its most conspicuous feature. The church was founded in or near 442 by the empress Eudoxia, as a depository for St. Peter's chains. These, one-half of them preserved in Rome and one-half brought from Jerusalem by the empress's mother Eudocia, spontaneously linked themselves into a single chain when they were brought together. Hence the different names of the church—Titulus (parish church) Eudoxiæ, Basilica Eudoxiana, and S. Petrus in Vinculis. It has been several times restored: in 556 by Pelagius I. as an inscription on it shows; by Adrian II. (772–95), by Sixtus IV. (1476), to whom the vaults are due; for Julius II. by Baccio Pintelli; and finally modernized in 1705 by Francesco Fontana, who remodelled the nave and added the wooden ceiling. The adjoining cloister is believed to be the work of Antonio Sangallo, who is buried in the church. It is surrounded by a very open arcade of plain arches, carried on Ionic columns. In the centre is a well with an octagonal sculptured curb, under an entablature borne by four Ionic columns, which is ascribed to Michael Angelo, but is doubtless by the designer of the cloister.

Sta. Prassede, an early basilica, built in memory of St. Praxedis, daughter of the senator Pudens, with whom, according to tradition, St. Paul lodged during his stay in Rome. There is some appearance of confusion between this church and Sta. Pudentiana (*q. v.*), in the legends which place both on the site of an oratory built in the II cent. by Pius I. Record tells as early as the end of the v cent., of a church which fell into decay, and was replaced in 817–820, under Paschal I., by a new building which still remains, apparently on an adjoining site. It has a nave and aisles, separated by two rows of Corinthian columns carrying an entablature which is relieved by flat bearing-arches in the wall over each intercolumniation, a transept, and apsidal choir. The old atrium, built about with modern buildings, is represented by a small court-yard that only partially displays the front, renewed in the XVI century. This is reached by a passage at whose entrance is an interesting original porch, a barrel-vaulted bay, borne on pro-

jecting lintels and supported by a pair of Ionic columns. The nave, 44 ft. wide, has a modern flat coffered ceiling; the narrow transept is blocked by a bell-tower and by screens; and the choir, which extends across the middle of it, is raised several steps over the semicircular confessio, in which are the tombs of St. Praxedis and her sister St. Pudentiana, with others. The marked peculiarity of the church, one which has been a subject of controversy among archæologists, is that every third column is replaced by a pier carrying an arch across the nave, as in S. Miniato in Florence and some other later basilicas. These arches, repeated across the aisles, divide the church into bays of three intercolumniations each, a peculiarity which, if it could be shown to belong to the original structure, would give the first known example of the division into compound bays which characterizes the Lombard and German churches. But it is probable that the piers and arches were later insertions added to stay the colonnades when the barrel-vaults were built over the aisles. The mosaics of the apse and the triumphal arch, which date from the first building of the church, are very interesting. So are those which decorate the chapel of St. Zeno, or of the Colonna Santa, in the right aisle. This chapel is of the X cent., and was named, because of its splendor, Orto del Paradiso. Other chapels line the aisles, of which the chief is the Olgiati, built near the end of the XVI cent. by Martino Lunghi. At the end of the XII cent. Innocent III. gave the church to the monks of Vallombrosa. In the XVI S. Carlo Borromeo, its titular cardinal, built the monastery whose cloister is behind the choir, rebuilt the façade, and modernized the interior. (*See Fig. 201.*)



Fig. 201.—Rome, Sta Prassede.

STA. PRISCA, a very old church, occupying, it is thought, the site of Servius Tullius's temple of Diana. It was a three-aisled basilica, its arcades supported on sixteen columns of marble and granite, which were incorporated into the piers when the church was modernized by Carlo Lombardi, in the beginning of the XVII century. There is record of the church as early as the V cent., and according to tradition it dates back to the II century. A double flight of steps leads down to the crypt, which, according to tradition, was built into the house in which St. Prisca lived and was baptized by St. Peter.

STA. PUDENTIANA has been called, apparently without sufficient reason, the oldest church in Rome, but retains little of its early aspect. It was a three-aisled basilica without transept, flat-ceiled, and with an apse of unusual form, segmental in plan, instead of the ordinary semicircular tribune. The arcades, of wide span, were carried on seven pairs of marble columns. These had no bases, but peculiar capitals of a kind of water-leaf, and may

still be seen imbedded in the later piers added at the time of vaulting the aisles, which are now divided into chapels. The two eastern bays have been marked off by heavier piers which supported an oval dome overlapping the ancient apse. The building is believed to stand upon the house of the Roman senator Pudens, whose daughters, St. Pudentiana and St. Praxedis (see *Sta. Prassede*) were among the earliest martyrs. According to the legend Pius I. in 145 consecrated a church here, but it is impossible that any important part of the existing church should date from that time. There is record of a rebuilding by Adrian I. in the latter part of the VIII century. Hübsch attributes the church to the IV cent., but the width of the arches, the slightness and the structure of the walls, are against this theory, which is not supported by record, and Mothes and other late authorities hold to the VIII century. In like manner the mosaics of the apse have been ascribed to the IV cent., but the balance of authority inclines to the IX. A small chapel, which makes the end of the left or southern aisle, and was said to contain the table on which St. Peter celebrated the holy supper, may be part of an earlier church; and the vaulted subterranean rooms over which the building stands are doubtless parts of the palace of Pudens. The fact that the church belonged and still belongs to a convent of nuns, is reason for the women's gallery over the entrance. The bell-tower, implanted in the left aisle, can hardly be earlier than the time of Adrian I., and its three upper stories, which resemble those of S. M. in Cosmedin, are probably later. The church was more or less altered in the XI and XII cents., and considerably transformed in 1598 under Cardinal Gaetano, who added the elaborate chapel of the Gaetani, opening out of the left aisle. Recent alterations have farther disfigured it, with special injury to the mosaics, which are among the finest of their early period. At the same time the front, which contains an old doorway flanked by twisted columns, was restored, and ornamented with new mosaics.

SS. QUATTRO CORONATI, a small basilica of unusual form, which took the place of a temple of Diana in the IV or V cent., it is said, and was dedicated to four martyrs of the persecution of Diocletian. It was originally a large church, with nave and aisles separated by two rows of thirteen columns, carrying arcades and an upper gallery, with a western apse and no transept. The church, which in this form was probably the work of Honorius, early in the VII cent., and was afterward augmented by Leo IV., in the IX, was destroyed by Robert Guiscard in 1084, and lay desolate till, in 1111, Paschal II. rebuilt it on a diminished scale. The present church was made by blocking up the arcades of the old, so that the original nave is now the whole, building into it new aisles, arcaded, vaulted, and with galleries above them: but half the old nave has been cut off for an open atrium and a vaulted narthex, and the aisles, only five bays, stop short of the apse, leaving a kind of transept. The nave and transept are flat-ceiled, and the apse, which takes the whole width of the church as it now is, and suffices for the choir, is raised above a crypt that contains in four urns the remains of the patron saints. The ancient bishops' chair still keeps its place in the centre of the wall of the apse. The original atrium, in front of the whole building, remains, but is encroached on by the nunnery to which the church belongs. From it opens the Chapel of St. Sylvester, added at the end of the XIII century. The church is held in reverence by the stone-masons of Rome, commemorating, according to their legend, some early sculptors who suffered martyrdom for refusing to make statues of heathen gods.

STA. SABA is the church of a monastery

on the Aventine Hill, and, it is believed, on the dwelling of Sylvia, mother of Gregory the Great. It was probably built about 630, by Honorius I., for a company of Greek monks of the order of St. Basil. It is a small three-aisled basilica, about 100 ft. long, without transept. Its most marked peculiarity is an open narthex which, as in many German churches, but in no other Roman one, is carried up above the aisles in three stories, making a sort of cross-wing nearly as high as the nave. The lower story is supported on square brick piers which take the place, it is said, of marble columns first used. The upper story is an open arcaded loggia on columns of plain mediæval form. An arcaded cornice of Lombard type on the rear side shows that this loggia and narthex were considerably modified by later rebuildings. The main arcades of the nave rest on fourteen somewhat unequal ancient columns, Ionic and Corinthian, the clerestory windows are small and sparse, and the roof open-timbered. The rather small apse is screened off according to the habit of the Greek church, by a kind of iconostasis, which crosses the rear wall of the nave and includes the baldacchino over the altar. The original exedra, or stone bench for the clergy, has been removed. The last bay of the nave and aisles is raised over the confessio, which extends under the apse and contains an altar decorated with mosaic. Early mosaics, or substituted paintings, decorate the vault of the apse, and a mediæval painted frieze crowns the walls of the nave. In the walls of the aisles are seen blind arches, not answering to the main arcades, and resting on corbels like the capitals of columns built up in the wall, as if there had once been an outer aisle, since suppressed by blocking up the arcades. An inscription on the walls shows that Cardinal Francesco, of Siena, added the open roof in 1463, and two small side chapels were added to the aisles in the XVI century. The enclosure of the monastery is entered through an interesting porch, like those of S. Clemente, and Sta. Prassede, and Sta. Maria in Cosmedin, which consists of a bit of barrel-vaulting under a gable, supported on two antique columns bearing lintels.

STA. SABINA, built on the site and perhaps of the materials of an ancient temple, is a three-aisled basilica of considerable size, dating from the IV century. The nave, 43 ft. wide, 50 ft. high, and nearly 160 ft. long, is separated from the aisles by arcades of thirteen arches, carried on marble Corinthian columns and supporting a wall pierced by round-arched clerestory windows. The regularity and workmanship of the columns and arcades has led Mothes to conclude that they show the hypæthrum of the original Temple of Liberty, unaltered. The roof is open-timbered. There is no transept, and the great apse at the end of the nave is flanked by a smaller one at the end of each aisle. The church is attached to a Dominican monastery, and the last three bays are accordingly raised to form a great choir, with steps crossing the whole church, while a stairway leads down in the middle to the confessio beneath it. The narthex across the front, lined with detached columns supporting cross-arches, is a ruder structure, perhaps of the IX century. It is somewhat transformed by later changes, and the present entrance is on the right (east) side, under a portico of columns. Two or three modern domed chapels open from the right aisle, and one on the left, the Chapel of St. Catherine, is lined with marble. The church was built, or adapted, under Celestine I., about 425, by a priest, Peter the Illyrian, whose name is recorded in an early mosaic on the wall over the door. It was restored by Adrian I. and Eugenius II., and considerably modernized in 1585–90, by Sixtus V. Honorius III. (1216–27) gave the church and adjoining palace to the Dominicans, who

turned the whole into a monastery; but it is not likely that they built the cloister which connects with the church on the west, for it is of rude architecture and evidently too early in date. It is, however, of interest, for it shows a kind of Lombard design rare in Rome, having broad arches carried on square piers, and divided and subdivided by sub-arches resting on columns alternately single and coupled.

S. Sebastiano fuori le Mura, an ancient Christian basilica on the Via Appia, two miles beyond the Porta S. Sebastiano, reported to have been built in the iv cent., but restored in 1296, and practically rebuilt in 1611 by the Cardinal Scipio Borghese, under the direction of Flaminio Ponzio. The church consists of a nave without aisles covered by a wooden ceiling, no transept, and square choir. This choir is covered by a dome belonging to the restoration of 1296, and under the nave is a groined crypt. The façade is of two orders, coupled Ionic columns below with arches between, and Doric pilasters above enclosing square-headed windows. A low pediment covers the whole front. From a door in the wall of the nave a narrow stair descends to the extensive ancient cemeteries close to the Catacombs of St. Calixtus.

S. Silvestro in Capite is a small basilica built by Paul I. in the viii century. It has a nave in four bays with piers and arcades, covered with a late barrel-vault, a small transept, and apse. The aisles have been divided into chapels. The lines of the atrium are preserved and also the original bell-tower. The church was restored and much altered in 1696 by Giovanni di Rossi, who added the present façade. It takes its name from the head of St. John, which is here preserved, it is said.

Sta. Silvia. See *S. Gregorio Magno.*

S. Spirito in Sassia. This church is attached to the hospital of the same name, the largest in Rome, founded in 1198 by Innocent III. on the site of an older one dating from 717, and built, it is said, by Ina, king of the Saxons, whence the name of the church. The hospital, destroyed by fire, was rebuilt after 1471 by Sixtus IV., from the designs of Baccio Pintelli, who also built the church at nearly the same time. The church is a rectangle about 68 ft. wide and 160 ft. long. Its nave, about 40 ft. wide and 110 ft. long, is flanked by five semicircular chapels on each side, and terminates in a square choir with a semicircular tribune. The façade is in two stages, each with an order of Corinthian pilasters, of five bays in the lower story, narrowing to three in the upper; the latter crowned by a pediment and flanked by consoles. In the middle interval below is a doorway, in that above a round window; the other intervals contain niches. At the rear of the church rises a square campanile terminating in two stories of pilasters, with two intervals in each face, each interval including two stories of two-light windows under a round bearing-arch. The hospital, which is of vast extent, including several courts, and with a façade 400 ft. in length, is separated from the church by the palace of its governor, which has a frontage of something more than 150 ft. contiguous to that of the church, and of which the buildings enclose a square court with two stories of light open arcades, the lower vaulted, the upper with a flat wood ceiling.

S. Stefano Rotondo is a singular round church of the v century. At present it is a circular building of about 140 ft. diameter, consisting of a central rotunda of 70 ft. clear width, surrounded by an aisle of 30 ft. The wall of the rotunda, 75 ft. high, is carried on a circle of twenty Ionic columns 22 ft. high, and two piers. These carry a horizontal entablature with relieving arches over the intercolumniations. Above is a clerestory

of round-arched windows, and a low conical roof. The aisle was once an open arcade with an outer circuit beyond it; but the outer circuit has mostly disappeared, and the inner is walled up. The arcade, of forty-four arches, was divided by eight piers into as many groups of

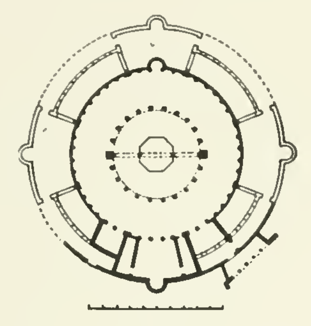


Fig. 202.—Rome, S Stefano Rotondo.

alternately five and six arches. The smaller groups, corresponding to the cardinal points, have higher arches carried on Corinthian columns, the intermediate ones lower, on Ionic columns. In this arcade all the columns carry stilt-blocks, those on the Corinthian capitals marked with a cross. The eastern group of arches has been left open, giving entrance to a chancel provided with a small apse, marking the main axis of the church, and flanked on each side by one or two modern chapels, which follow the lines of the old outer aisle. Across this main axis, in the middle of the church, a later wall has been carried, spanning the rotunda, as if to strengthen the failing construction, resting on arches borne by two high Corinthian columns and by two of the piers above mentioned, which replace or enclose two of the columns. The present entrance is oblique, on the north side of the apse, under an open porch with four free-standing columns. Some early mosaics still remain in the apse, and the walls are painted with scenes of Christian martyrdom before the time of Julian the Apostate, by Pomeranzio, in the XVII century. The original plan of the church is somewhat obscure; but according to Hübsch's restoration the outer circuit was divided by four radiating arms corresponding to the one which remains, with its apse, and forming a kind of cross. These were connected by four segments of a narrower aisle, corresponding to the four groups of five smaller arches, and the space filled out to the circumference of the arms of the cross by a ring of four narrow courts, walled in but not roofed (see *plan, Fig. 202*). The church was built by Pope Simplicius, and consecrated in 468; the irregularity of the materials and the roughness of the work correspond with this date. It was repaired by John I. and his successor, Felix IV., who lined it with mosaics and marbles that have all but disappeared. The cross-wall which stays the roof is ascribed to Adrian I. (772–91); and Nicholas V. (1447–55) finding the church too dilapidated for his restoring, walled in the inner aisle and left the outer parts to crumble. The singularity of its plan has led some authorities to believe that it could not have been originally a church; and it has been assumed to contain the remains, or at least the foundations, of the Macellum Magnum or great market of Nero; but the construction, even of the foundations, is incompatible with such a theory.

STA. SUSANNA, an early church, mentioned as long ago as the IV cent., and altogether rebuilt in the first years of the XVII cent., by Carlo Maderno. It is a cruciform church without aisles, and owes to him the rich and heavily panelled flat ceiling of the nave, as well as the façade. This last is the earliest work of Maderno, and marks the beginning of the baroco style in Italy, though it is far soberer than the buildings in that style that followed it. It simulates rather than follows the outline of the nave and aisles, and has an order of Corinthian columns in the lower story enclosing niches, and in the centre

a large doorway under a pediment. In the second story, flanked by scroll-buttresses, is an order of pilasters, likewise Corinthian, with a great central niche under a sub-order, and flanked by two lesser ones, the whole surmounted by a broken pediment and raking balustrade.

Sta. Trinità dei Monti, a familiar church by Domenico Fontana, occupying a conspicuous site at the head of the Spanish steps, so-called. Its history is obscure. There is a tradition that it was founded by Charles VIII. of France in 1494. The façade is ascribed to Fontana, though one of the towers bears the inscribed date 1570, when he was but twenty-seven years old. The interior was apparently older, and the transept still shows pointed arches. After the failure of a portion of the vaulting toward the end of the xviii cent., it was restored about 1816 by a French architect, Mazois. It is a cruciform church, with a nave separated by four piers on each side from a range of connected chapels occupying the place of aisles, and a square choir. The façade is narrow and high, in three divisions with an order of Corinthian pilasters, the central interval occupied by a doorway, the side divisions slightly advanced and crowned by two similar towers, with square open belfries capped by octagonal lanterns. At the left side of the church is a convent, of which the buildings enclose a square cloister surrounded by a vaulted arcade.

Sta. Trinità dei Pellegrini. A church and hospital, the latter founded in 1548 by S. Filippo Neri, the former built about 1614 from the designs of Paolo Maggi ; the façade added a century later by Francesco de' Sanctis. The whole plan covers an area of about 215 ft. by 260 ft., of which the church occupies one angle. It is interesting for its skilful and effective disposition of parts, and includes some fine apartments. The church is a rectangle of about 64 ft. by 140 ft., divided into a short nave flanked by three rectangular chapels on each side, opening by arches in the intervals of an order of pilasters, a short transept, and a choir consisting of a short rectangular bay with a semicircular tribune. The crossing is bounded by four great arches springing from detached columns, and is covered by a dome.

SS. Vincenzo ed Anastasio, called also S. Vincenzo alle Tre Fontane, is a basilica of the vii cent., rebuilt at the end of the viii, and retaining in the main its form of that date. It is about 235 ft. long, and 100 ft. across the transept, with a nave of brick, and aisles, transept, and chancel alternately coursed in brick and tufa. Across the front is an open porch like that of S. Lorenzo fuori (*q. v.*), with four wide-spaced granite Ionic columns in front, supporting an architrave protected by flat relieving arches. The clerestory walls have flat pilaster-strips and a brick cornice with small marble modillions. Within, the nave, 138 ft. long, is bordered by heavy piers 4½ ft. square, carrying nine round arches, of which the two nearest the entrance are walled up. The roof is open-timbered, and on the piers are painted the twelve apostles from Raphael's designs, disfigured by restorations. The aisles, which, like the transept and square-ended chancel, are later than the nave, are vaulted ; the transept does not cross the nave, but is lower, and its arms open through arches larger than those of the main arcades. The high clerestory wall, above the low arcades of only 20 ft. high, is pierced with small round-headed windows, many of which retain their old filling of perforated marble slabs. The arms of the transept have each beside the chancel two square chapels of later date. The church was founded by Honorius I., in 629, restored by Adrian I., in 772, and rebuilt "a fundamentis" in 796, by Leo III. The portico inscribed with the date 1140 belongs to the administration of Innocent II., who built or reorganized the adjoining

monastery for the Cistercians under St. Bernard. Since 1868 the whole, with the two adjoining churches (see *S. Paolo alle Tre Fontane* and *Sta. Maria Scala Celi*), has been in the possession of the French Trappists. Two aisles of the adjoining cloister remain, rather rudely built, with groups of four sub-arches under enclosing arches carried on marble columns with bracket caps.

The SAPIENZA, the great University of Rome, was founded as early as the middle of the XIII cent., under Innocent IV., for the study of the canon and civil law. It was greatly enlarged, both as to its buildings and the scope of its teaching, under successive popes, but the present buildings, not begun until the beginning of the XVI cent., were finished as late as 1576, under the direction of Giacomo della Porta. Their plan is a rectangle, measuring nearly 180 ft. in breadth by 265 ft. in depth, with a long court in the centre, entered directly from the central doorway of the principal façade, and flanked by corridors which give access to the various halls of the University. The majestic front, of extraordinary simplicity, is divided by string-courses into three stories, of which the lower is almost unbroken except by the central pedimented door, and the others have a group of windows in the middle. Two narrow bays like pavilions are marked off at the ends by quoins, and a modillioned cornice crowns the whole. The great court, which measures about 65 ft. by 156 ft., is surrounded on three sides by two stories of very simple vaulted arcades faced by orders of pilasters, Doric below and Ionic above, with a third story of flat wall divided into panels, each with a square window with moulded architraves and smaller horizontal panels above each, with a roundel containing a lion's head. At the extremity of the great court is a church dedicated to San Ivo, built from the designs of Borromini, with a fantastic plan composed of a triangle whose sides are broken by semicircular niches, and surrounded by an irregular cluster of chapels. It has a concave front toward the court, above which rises a dome on a drum of broken outline, and at the top an absurd spiral lantern.

The SCALA SANTA (Holy Staircase), consisting of twenty-eight marble steps about 12 ft. broad, brought from Jerusalem by the empress Helena in 326, and asserted to be those of Pilate's palace—is enclosed in a building erected by Leo III., and rebuilt with additions by Sixtus V., about 1585, from the designs of Domenico Fontana. It is flanked by two straight staircases on each side, separated by solid walls, with a portico of five arches in front. At the head of the stairs is a loggia from which opens the Sancta Sanctorum, so called, a Gothic chapel of small size, which forms the only portion now remaining of the ancient papal palace of the Lateran. The façade has a length of about 96 ft., and, as built from Fontana's designs, consisted of two stories of open arcades, faced with Doric and Corinthian pilasters. Of these only the lower remains, the upper having been replaced during the reign of Pius IX., by a flat wall with an order of Ionic pilasters, with pedimented windows in the intervals.

SEPTIZONIUM. See *Palace of the Cæsars*.

SESSORIAN BASILICA. See *Sta. Croce in Gerusalemme*.

SISTINE CHAPEL. See *Vatican*.

TABULARIUM, the seat of the state archives, and of those concerning the public treasury. It faced the Forum, in the immediate neighborhood of the temple of Saturn, where the treasury was established, and has left considerable remains. An inscription shows that the existing edifice was built by the consul Q. Lutatius Catulus, in 78 B.C. The massive walls at the back are of peperino on the outside and tufa within; opposite them stands a range of arcades with heavy piers

of peperino, ornamented on the side toward the Forum with fluted Doric semi-columns whose capitals are of travertine, and opening on a series of vaults. Upon this substructure stood a double arcade with Doric and Ionic columns; the lower range formed a public passage, and inside of it a series of rooms was grouped about a court. The quadruple series of vaulted chambers behind the arcades of the façade was in part walled up by Michael Angelo in the construction of foundations for the Palace of the Senator, and these vaults were used under Nicholas V. as a storehouse for salt. The arcaded portico formed an architectural connection between the two parts of the Capitoline Hill. The length of the substructure is 233 ft., its height 49 ft. The portico now serves as a museum for architectural fragments, especially from the temples of the Forum. A steep ancient stair of sixty-seven steps leads from the outside of the building, at its lowest level toward the Forum, to the large hall which faced on the back.

TEMPIETTO. See *S. Pietro in Montorio.*

TEMPLE OF ANTONINUS AND FAUSTINA, fronting on the north side of the Forum Romanum, opposite the House of the Vestal Virgins. It is the best preserved temple on the Forum. The cella, still surviving in great part, was in the XVII cent. converted into a church under the invocation of San Lorenzo in Miranda. The ancient prostyle portico of six columns, with two intervening on each flank before the antæ, still exists; the columns, 46 ft. high, are unfluted, of beautiful cipollino marble, with handsome Corinthian capitals of white marble. The architrave bears the ancient dedicatory inscription. The frieze of the long sides is sculptured with rich candelabra and vases between advancing griffins. On the east side almost the entire frieze is in place, with portions of the ornate cornice. The temple measured in plan 72 ft. by 120 ft., and was raised on a basement 16 ft. high.

TEMPLE OF AUGUSTUS, discovered in 1890 in the Via Tordinona. Portions of the foundations and stylobate show that it was circular, and preserve the marks of the column-bases. The entablature is Corinthian, and the cornice has lion-head water-spouts. The capitals, of Corinthian outline, are peculiar; they represent a panther-skin wrapped about the echinus, with the paws projecting at the angles. The temple was preceded by a portico of horseshoe form. Another temple of Augustus, founded by Tiberius and completed by Caligula, has been conjecturally identified with ruins behind the temple of Castor and Pollux.

TEMPLE OF CASTOR AND POLLUX, near the eastern end of the Forum Romanum, adjoining the Basilica Julia. Only three fine Corinthian columns of the peristyle remain standing, with part of their entablature; these belong to the western long side, and are 46 ft. high. Some portions of the cella walls remain, and part of the careful black and white mosaic of the cella floor. The basement of the temple is 24½ ft. high and 98 ft. wide; it was approached from the side of the Forum by a large triple flight of steps. The columns belong to the embellishment executed under Tiberius; the interior portions of the temple to the old Republican sanctuary, whose original foundation goes back to the battle of Lake Regillus, in 496 B.C. The temple was peripteral, octastyle, with eleven columns on the flanks.

TEMPLE OF CONCORD, occupying the N. W. angle of the Forum Romanum. It appears to have been founded by Camillus, in 367 B.C., in honor of the reconciliation of patricians and plebeians. Under Augustus the structure, which had become decrepit, was rebuilt in the Corinthian style. The building consisted of two parts: that in front, forming the temple proper, was 83½ ft. wide and 47½ ft. deep; that behind, which served as the Senate-

house, was $147\frac{1}{2}$ ft. wide and 79 ft. deep. It stood upon a massive basement; the front part, which had six columns on the façade and four on each flank, was preceded by a monumental flight of steps. The interior of the cella had ranges of columns along the walls, on a raised stylobate. The Senate-house was ornamented with paintings and statues. The foundations survive, together with many fragments of the rich architectural decoration, which is among the finest in Rome and evidently of Greek workmanship.

TEMPLE OF DEUS REDICULUS (the god of turning back), a short distance outside of the Porta San Sebastiano (the ancient Porta Capena), so-called from the legend that Hannibal, alarmed by visions, turned back here from his advance upon the city. The structure, however, is not a temple, but a funeral monument in the form of a pseudo-peripteral temple with Corinthian pilasters, built of red and yellow brick. The walls are divided by two bands of meander in baked tiles; the technique of the brickwork and ornament is excellent. The interior consists of two stories with groined vaulting, the lower arranged to receive the burial urns and the upper as a chapel. There is ground for believing this to be the tomb of the celebrated Herodes Atticus, of his wife Annia Regilla, and of their children.

TEMPLE OF FAUSTINA. See *Temple of Antoninus and Faustina.*

TEMPLE OF FORTUNA VIRILIS, so-called, now the Armenian Catholic church of Sta. Maria Egiziaca. It is Ionic, tetrastyle, pseudo-peripteral, with seven columns on the flanks, and is one of the most perfect monuments of ancient Rome remaining. The four columns of the front portico, with one on each flank, originally stood free, but the intercolumniations were walled up when the temple was converted into a church. The entablature remains perfect on the west side. The frieze was carved with bucrania and graceful festoons, and the cornice ornamented with dentils, the egg-and-dart moulding, and a cyma bearing acanthus sprays and lion-head waterspouts. The cella and the high moulded basement are built of tufa, originally coated with stucco; the decorative parts are of travertine. It is probably the temple of Fortuna, without any epithet, or else that of Mater Matuta, both built by Servius on the Forum Boarium. The temple measures 36 ft. by 62 ft.; the height of the columns is 27 ft.

TEMPLE OF HADRIAN, so-called, though by some scholars the monument is thought to be the Basilica of Neptune, or Portico of the Argonauts, built by Agrippa in commemoration of his naval successes in 26 B.C. If the first attribution is correct, and it seems confirmed by the style, it was built by Antoninus Pius. Eleven great Corinthian columns 49 ft. high, of Carrara marble, remain with their entablature in the Piazza Pietra, before the Camera del Commercio, forming part of the north portico of the ancient structure, which was a peripteros of eight columns by fifteen, on a high basement. The intercolumniations were walled up by Innocent XII., in 1695, to obviate impending ruin. A portion of the barrel-vault of the cella, ornamented with coffers, remains in the interior.

TEMPLE OF HERCULES, the identification at present best authorized for the beautiful columnar circular monument on the ancient Forum Boarium, long familiar as the Temple of Vesta (*q. v.*). From its marble stylobate rise nineteen of the original twenty slender, well-proportioned Corinthian peristyle columns of Parian marble. The shafts are about 26 ft. high, and the capitals appear to date from about the time of Sulla. The entablature and the ceiling between it and the surviving cella wall are gone; the existing conical roof rests directly on the columns. The diameter of the cella is 33 ft.; the door

was on the east side, and was flanked by windows. The temple was at an early date dedicated as a church, at first to S. Stefano, and later to Sta. Maria del Sole, which latter attribution it preserves.

Temple of Julius Cæsar (Aedes Divi Julii), at the eastern end of the Forum Romanum, a prostyle pycnostyle structure on a very high basement, dedicated by Augustus on the site of Cæsar's funeral pyre. It was the earliest temple in Rome dedicated to a mortal. At the Forum end was the orator's platform (Rostra Julia) of Cæsar and Augustus, whose plan shows a large semicircular recess in the middle; the front of this platform bore the beaks of the ships taken at Antium. The remains are scanty, yet sufficient to supply a complete plan. Between this temple and that of Castor and Pollux rose the Arch of Augustus, now gone except parts of the foundations.

Temple of Juno Sospita. See *Temple of Spes.*

Temple of Jupiter Capitolinus, a famous sanctuary, now almost wholly destroyed. It occupied the western summit of the Capitoline Hill, and is described as about 200 ft. square. It had three ranges of widely spaced columns in front, on a high raised basement, and three cellas side by side, dedicated to Jupiter, Juno, and Minerva. In both plan and details it was much more Etruscan than Roman. It was founded by Tarquinius I., but dedicated only in 509 B.C., after the expulsion of Tarquinius Superbus. In the course of later restorations, the last one by Domitian, it was lengthened, and perhaps made narrower; the portions of the foundations remaining show the width to have been 183 ft., and the length somewhat greater. The greater part of the site is at present covered by the Caffarelli palace and gardens.

Temple of Jupiter Stator, beside the ancient Porta Mugonia. It has been conjecturally identified with the remains of a large platform in concrete close to the supposed position of the Porta Mugonia. Another great temple under the same invocation stood beside that of Juno Regina within the Portico of Octavia. (See *Portico of Octavia.*)

Temple of Mars Ultor (the Avenger), in the Forum of Augustus. It was founded by Augustus in fulfilment of a vow made at the battle of Philippi, and was dedicated in 2 B.C. It ranked as one of the most splendid temples in Rome, and was adorned with works of art and military trophies. Three of the fine Corinthian peristyle columns are still standing, with a pilaster and part of the cella wall. The columns are 59 ft. high and 5¾ ft. in lower diameter. These belong to the eastern long side. The coffered ceiling between the columns and the cella wall is of excellent design. Toward the close of the V cent. the church of S. Basilio was built among the ruins of the temple, and until 1820 its campanile rested on the surviving columns. The temple was octastyle, with porticoes on three sides only; at the back it had an apse and was built against the massive end wall of the Forum.

Temple of Minerva. See *Forum Romanum.*

Temple of Minerva Medica, so called from the discovery here of the well-known statue of Minerva Medica, in reality an elaborate structure for the reception and distribution of water. It may be the monument known in antiquity as the Nymphaeum of Alexander. It is one of the most important domical structures that have come down from ancient times, and from its masonry and style is assignable to the III century. Unfortunately, a part of the wall and dome of the central building fell in 1828 and 1868. The plan is a decagon with ten large interior niches, the diameter 82 ft., and the height of the dome 108 ft. The walls are pierced in the upper part with a number of well-proportioned round-headed windows. The

monument had originally a semicircular wing on each side of the central rotunda, and was preceded by a vestibule with columns.

Temple of Neptune, or Poseidoneum, on the Campus Martius, identified with strong probability in the remains of a peripteral temple recognized in the buildings of the Dogana di Terra or Dogana Vecchia. There are still standing eleven Corinthian columns of Luna (Carrara) marble, with their entablature, a large piece of one side of the cella, and a small piece of one end. The ceiling of the pteroma consists of a barrel-vault of concrete, originally adorned with reliefs in stucco. Palladio gives a plan of this temple as hexastyle with fifteen columns on the flanks. Excavations made in 1878 disclosed remains of porticoes forming an enclosure about 330 ft. square about this temple. This is plausibly held to be the Porticus Neptuni built by Agrippa. In the basement of the temple were set thirty-six reliefs representing the provinces of the Roman Empire, separated by trophies of the military equipments characteristic of the several provinces. A number of these reliefs still exist.

Temple of Peace. See *Basilica of Constantine.*

Temple of Romulus. See *SS. Cosmo e Damiano.*

Temple of Saturn, on the south side of the Forum Romanum, near its western end. A very ancient altar to Saturn stood on this spot, and was at an early date replaced by a temple. This temple was rebuilt under Augustus, and restored by Septimius Severus, and finally by Diocletian. The six unfluted Ionic columns of the façade are standing with their entablature and part of the pediment, together with an adjoining column on each flank. The marble capitals are of a debased type with four angle-volutes; the shafts are of gray and red granite. A part remains of the flight of steps which gave access to the lofty platform of the temple, 71 ft. by 107 ft., which is built of travertine and belongs to the building of Augustus. From the early days of the Republic, the Temple of Saturn served as the chief public treasury.

Temples of Spes and Juno Sospita, as identified with strong probability, two of a group of three pre-imperial temples, perhaps restored in the early empire, side by side on the Forum Olitorium, or oil-market. Considerable remains of all three are incorporated in the present church of S. Niccolo in Carcere. The central temple was the largest, and was Ionic, hexastyle, peripteral, with a deep portico of three interior ranges of columns before the cella. One side of its cella-wall, in travertine, and four columns survive. The second largest temple was also Ionic and hexastyle, and would have been peripteral but for the extension across its side porticoes of the back wall of the cella. The third temple was considerably smaller; it was hexastyle, peripteral, and of Tuscan order. Five peristyle columns of the last temple are standing, and seven columns with some pieces of wall of the second. Fragments of the walls are visible in the crypt of the church, some of the columns appear in its façade, and others in its side walls. In the upper part of the church structure appears some of the entablature of the middle temple, with a gracefully sculptured frieze. (See *S. Niccolo in Carcere.*)

Temple of Venus and Rome, on the Sacred Way, near the Forum, and between the Colosseum and the Basilica of Constantine. The temple had two cellas, back to back, the colossal goddess-statue in each occupying a semi-domed apse at the inner end. The cella walls were each ornamented with five niches for statues, alternately round and square, with side-columns and alternately round and triangular pediments. Between the niches rose decorative columns supporting an en-

tablature and sculptures. The two semi-domes with their diamond-shaped lacunars of stucco, and one wall of each cella, survive, one cella being within the enclosure of the convent of Sta. Francesca Romana. Before each cella was probably a pronaos of four columns *in antis*. The peristyle had ten great fluted Corinthian columns of white marble on each front, and twenty on each flank. The pediments were filled with sculptures. The stylobate was raised on seven steps. About the temple was a spacious court paved with white marble and surrounded with porticoes of gray granite and red porphyry columns. There were raised and decorated propylæa in the middle of each side. The court was ornamented with monumental columns, flanking the temple, which perhaps bore statues of the empress Sabina and the emperor Hadrian, the founder of the temple.

Temple of Vespasian, formerly called Temple of Jupiter Tonans, in the Forum Romanum, at the N. W. end, built against the Tabularium. The three fluted Corinthian columns of Carrara marble, with their entablature, which formed the northern angle of the prostyle hexastyle west front, form a conspicuous memorial of this temple. The height of the columns is 50 ft., their base-diameter over 5 ft. The richly ornamented entablature was long studied as an architectural model, and is effective despite its excess of exuberance. Much of the marble pavement of the cella remains in place. The interior had ranges of columns along the walls, on a raised stylobate. This temple was dedicated by Domitian, about 94 A.D., and restored by Septimius Severus and Caracalla.

Temple of Vesta, the seat of the ceremonial hearth of the Roman State, at the eastern end of the Forum Romanum. Only the substructions of tufa and rubble remain of this venerable sanctuary, with, however, enough architectural fragments to afford material for a complete restoration as the temple existed in the III century A.D. It was circular, about 50 ft. in diameter, with a portico of twenty monolithic fluted Corinthian columns. This monument is not to be confounded with the familiar circular edifice in the Piazza della Bocca della Verità, which was formerly known as the Temple of Vesta, but is now generally called the Temple of Hercules.

Theatre of Marcellus, founded by Julius Cæsar, and dedicated by Augustus in 13 B.C. It and the theatre of Pompey are the earliest examples of the complete Roman theatre in masonry with architectural adornment of the exterior arcades. The outer wall was solidly built in two arcaded stories of splendid travertine masonry, ornamented with engaged columns and entablatures—those of the lower tier Doric, of the upper Ionic. The lower tier is now buried to two-thirds of its height. Twelve of its arcades are still visible, and with those above are now occupied by modern houses, which have replaced the mediæval fortress of the Pierleoni and Savelli. The stage was very deep ; some part of the exterior of the stage-structure still exists. According to ancient records, this theatre could receive thirty thousand spectators, but from the existing remains this is clearly an exaggeration.

Theatre of Pompey, built by the great Pompey, and completed in 52 B.C. It was the first theatre built of stone in Rome ; the seats and architectural adornment of the interior were of marble, and the exterior arches, whose lower tier was ornamented with engaged Tuscan columns, of travertine. It could hold forty thousand people. Much still remains of this theatre, though for the most part concealed by modern houses. At the back of the stage-structure was the splendid Portico of Pompey, with several parallel ranges of columns surrounding a court,

and adjoining this was the Curia of Pompey, in which the Senate met, and where Cæsar was murdered.

THERMÆ OF AGRIPPA, the first of the great public baths of Rome, opened in 21 B.C. They were situated immediately behind the Pantheon, were very large and splendidly ornamented, and were supplied with water by the aqueduct of the Aqua Virgo, also built by Agrippa. These thermæ survived in great part down to the early XVI cent., but what little is now left is for the most part masked by modern houses. In 1881–82 a row of houses built behind the Pantheon was removed, and important remains of the great hall of the thermæ were exposed. It was ornamented with fluted columns of pavonazetto marble and with an entablature of Pentelic marble, including a frieze sculptured with dolphins and tridents. Part of the entablature has been replaced in position. The hall was encrusted and paved with beautiful marbles, and an apse for a statue was added by Hadrian on the side toward the Pantheon. The theory once entertained that the Pantheon was connected with the thermæ of Agrippa is now rejected.

THERMÆ OF CARACALLA, one of the most sumptuous foundations of Roman imperial luxury, still imposing in its utter ruin. The main central structure, including the baths and their immediate accessories, was completed by Caracalla in 216 A.D.; the outer court, about 1,100 ft. square, with its porticoes, exedras, stadium, gardens, etc., was added by Heliogabalus and Alexander Severus. The great central hall of the baths, once the *tepidarium* or warm bath, was a noble room 180 ft. by 72 ft., covered with groined vaulting. The *caldarium* or steam-bath was a rotunda 160 ft. in diameter. The decoration of the whole, with precious marbles, alabaster, mosaics, wall-paintings, and sculptures, was of the most lavish character. The athlete mosaic of the Lateran came from the palæstra of these thermæ, and here were excavated in the XVI cent. the famous Farnese Bull, Farnese Hercules, and Farnese Flora, and over one hundred other pieces of ancient sculpture.

THERMÆ OF DIOCLETIAN, between the Viminal and the Quirinal, dedicated 305–306 A.D. The architect Palladio took the plan of the remains in the days of the Renaissance; now but scanty fragments survive, in brick masonry, besides the modern church of S. Bernardo, together with the splendid central hall, which, as adapted by Michael Angelo, constitutes the present transept of Sta. Maria degli Angeli. This hall is about 200 ft. long, 95 ft. high, and 79 ft. wide; it is covered by three superb groined vaults, whose imposts are received by eight columns of red syenite with monolithic shafts 38 ft. high, to which their Corinthian and Composite capitals add 6 ft. The ancient bases are buried 7 ft. beneath the raised modern pavement. The lighting is managed by windows high in the lunettes of the vaults. Despite the disfigurement of modern decoration, this noble hall is highly impressive. It exerted a profound influence upon the architecture of the Renaissance. At each angle of one side of the enclosure which surrounded the central buildings was a circular domical building resembling a small Pantheon. One of these is still essentially perfect, and since 1598 has served as the church of S. Bernardo alle Terme. The opening at the vertex of its dome is covered by a modern lantern. About half the opposite rotunda is still standing.

THERMÆ OF TITUS, a very extensive public bathing establishment, hastily built by Titus immediately after the dedication of the Colosseum, in 80 A.D. It was built over the remains of Nero's Golden House, portions of which still exist in its substructions. The only part excavated is a piece of one side of the enclosure, consisting of nine parallel vaulted corridors bounded by a curved line. These may rep-

resent the foundations of a theatre. Beneath, a series of seven rooms belonging to Nero's palace is accessible, together with other remains of some extent. These rooms were opened in Raphael's day, and served as example and inspiration for much of the Renaissance of the XVI cent.; their decoration with wall-paintings and grotesques and other ornaments in stucco was much admired by him. Afterward they were closed again, and were reopened by the French in the beginning of the present century. Parts of the wall-painting still remain, in an excellent style, resembling the best of that at Pompeii.

Tomb of Caius Cestus. See *Pyramid.*

Tomb of Cæcilia Metella, daughter of Q. Metellus Creticus, and wife of a Crassus, perhaps Cæsar's quæstor. It is a massive round tower 97 ft. in diameter, rising from a triangular basement, faced with beautiful ashlar of travertine, and girdled beneath the cornice by a handsome marble frieze sculptured with bucrania and garlands. The summit of the monument now bears a battlemented mediæval fortification. The grave-chamber, now ruinous, had a conical vault. It is probable that the original termination of the monument was domical.

University. See *La Sapienza.*

The Vatican, the official residence of the popes, and seat of the papal government, may be said to consist of two distinct masses of building, occupying the slope of the hill at the foot of which stands St. Peter's, and connected by two narrow parallel galleries about 1,000 ft. long and 240 ft. apart, themselves connected about the middle of their length by two cross-galleries which divide the enclosed space into two rectangular courts of nearly equal size. Of these two masses of building, the one to the south is properly the palace of the Vatican, and connected with the great basilica of St. Peter: that to the north, originally a garden-house of the popes, and of no great extent, still retains its early appellation of the Belvedere. Both of these great divisions are composed of an immense number of halls, chapels, galleries, state apartments, staircases, courts, and private apartments of enormous extent, dating from various ages, the work of successive popes, and whose arrangement, determined for the most part without reference to any general or comprehensive scheme, will be best understood by reference to the accompanying plan. The principal entrance is by the Scala Regia, a magnificent staircase built by Urban VIII., about 1630, from the designs of Bernini, which opens from the south end of the great western vestibule of St. Peter's, and is also a continuation of the north arm of the enclosing colonnade of that church. The staircase is divided into two runs, the first 136 ft. long, rising about 29 ft.; the second nearly 80 ft. long and rising 18 ft. The first run is built in false perspective, diminishing as it rises, to increase its apparent length, from a width at the bottom of about 26 ft. to about 16 ft. at the top, and flanked by an order of detached Ionic marble columns bearing a ramping entablature, which with its deeply panelled barrel-vault also diminishes. This staircase leads to the Sala Regia, a rectangular hall built by Antonio Sangallo about 1540, and serving chiefly as an ante-room to the Pauline and Sistine chapels, which open from it; the former built at the same time, by the same architect, the latter some seventy years earlier, by Baccio Pintelli. The Sistine Chapel is a simple rectangular hall about 130 ft. long and 44 ft. wide, with a flat ceiling connected with the walls by a cove broken by lunettes. Its plain walls are pierced above by six arched windows on each side, the space below being divided horizontally into two bands, the upper containing a series of great frescoes by Perugino, Luca Signorelli, Sandro Botticelli, and other masters

of the xv cent.; the lower, intended originally to be covered by the tapestries made from Raphael's cartoons, but now painted in imitation of drapery. The ceiling and one of the end walls are covered with the frescoes of Michael Angelo, from which the supreme interest of the chapel is derived. From the opposite side of the Sala Regia opens the long Sala Ducale, some 30 ft. wide and 136 ft. long, built from the designs of Bernini, with plain walls but a coved ceiling magnificently decorated with frescoes by Lorenzino da Bologna, and forming a gallery of communication between the great staircase with its adjacent chapels, and the residence portions of the palace, which surround the Cortile delle Loggie, called also the Court of St. Damasus. This court, begun about 1510, from the designs of Bernini, and finished after his death by Raphael, is an irregular quadrangle about 210 ft. by 146 ft., surrounded on three sides by four stories of building, the lowest a simple arcade with entrances to the museum and the pontifical palace, the three others consisting each of an arcaded order of columns, Doric, Ionic, and Corinthian, respectively. All the arcades are profusely decorated with frescoes, but those of one side on the third story are celebrated as the Loggie of Raphael, being adorned with frescoes of scriptural subjects covering the vaults of the ceiling, and with arabesque paintings and stucco reliefs on the pilasters, of the utmost delicacy and beauty, executed from Raphael's designs and under his supervision by his pupils. The arcades were long open to the weather, and the pictures had suffered great injury before the openings were closed by glass in 1813. From the end of this gallery opens a suite of four square rooms, originally a portion of the official apartments of the popes, and of which, by command of Julius II. and Leo X., the walls and ceilings were painted in fresco by Raphael and his successors. The work was executed between 1508 and 1520, and the rooms have since been known as the Stanze of

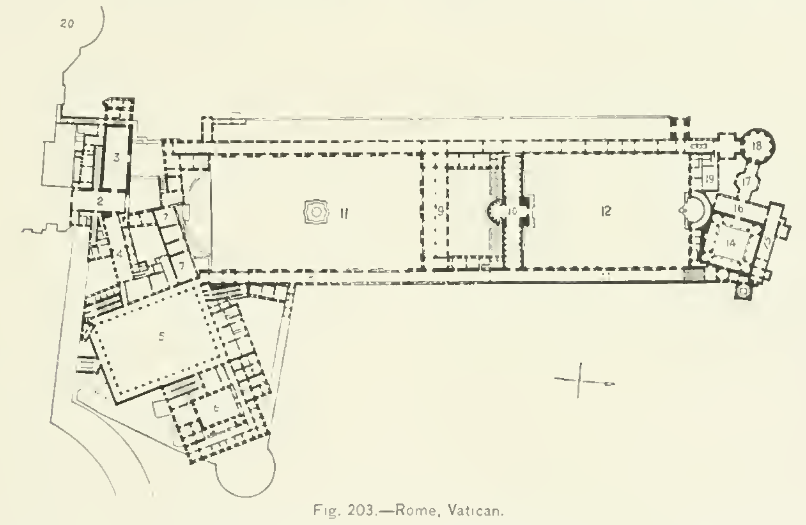


Fig. 203.—Rome, Vatican.

1. Scala Regia.
2. Sala Regia.
3. Sistine Chapel.
4. Sala Ducale.
5. Court of S. Damaso.
6. Court of Pal. of Sisto V.
7. Appartamenti Borgia.
8. Museo Lapidario.
9. Library.
10. Braccio Nuovo.
11. Great Court of Belvedere.
12. Garden of La Vigna.
13. Museo Chiaramonte.
14. Smaller Court of Belvedere (Museo Pio Clementino).
15. Sala delle Statue.
16. Sala degli Animali.
17. Sala delle Muse.
18. Rotonda.
19. Egyptian Museum.
20. St. Peter's.

Raphael. The buildings to the east and north of the court of St. Damasus, surrounding the small court of Sixtus V., are



Fig. 204.—Rome, Vatican, Hall of Statues in the Belvedere.

occupied by the private apartments and offices of the pope and his household.

The remainder of this vast group of buildings, those namely at its northern extremity known as the Belvedere, with the long galleries connecting them with the buildings at the southern end, and the two transverse galleries dividing the great court, are entirely given up to the immense and varied collections of sculpture, antiquities, books, and manuscripts which are known as the Museum of the Vatican. At its principal entrance near the N. W. angle a fine staircase of marble, opening from a vestibule in the form of a Greek cross, leads to a hall of similar shape called the Sala a Croce Greca, and this again to the Rotonda, a great circular hall 60 ft. in diameter, built by Pius VII. from Simonetti's designs, to receive the great porphyry vase or *tazza*, 15 ft. in diameter, found in the Baths of Titus. The hall is surrounded by semicircular niches containing statues, in the intervals of an order of Corinthian pilasters, over which is a range of semicircular windows, and is covered by a coffered hemispherical dome. The centre of the floor is an ancient mosaic found at Otricoli, in 1780. The Sala delle Muse (Hall of the Muses), a noble gallery in three compartments divided by coupled Corinthian columns of marble, connects the Rotonda with the galleries surrounding the Cortile or inner court of the Belvedere. This court, built originally by Bramante, which may be regarded as the central point of the Museum, forms a square of about 70 ft., surrounded by a vaulted corridor some 16 ft. wide, opening from the court through the intervals of an Ionic order, the angles of the square cut off, and those of the corridor occupied by four cabinets, three of which are devoted to the most precious examples of Greek sculpture, the Laocoön, the Apollo, and the Antinoüs or Mercury, the fourth being occupied by the Perseus of Canova. The court is enclosed on two sides by the Hall of Animals and the long Gallery of Statues. The halls and galleries thus far enumerated constitute what is known as the Museo Pio Clementino, from the two popes, Pius VI. and Clement XIV., who founded it, and by whom the halls were for the most part built and filled. On the N. E. angle of the Belvedere is a square tower containing a circular staircase of remarkable construction, designed by Bramante. It is about 27 ft. in diameter, with a spiral ring of Doric columns with entablatures carried from bottom to top, a height of something over 50 ft., around an inner circular well 13 ft. in diameter. From the southernmost of an irregular suite of rooms flanking the Cortile on the east, a broad stair descends to the long gallery of the other great division of the Museum, called the Museo Chiaramonti, from the family name of its



PISTOIA—CATHEDRAL SQUARE







founder, Pope Pius VII., which occupies the half of one of the great galleries that connect the Belvedere with the southern portion of the palace, from the middle of which the newest addition to the buildings, known as the Braccio Nuovo, is carried across the court. This fine hall, begun in 1817 and finished in 1822, from the designs of a German architect, Rafael Stern, is about 26 ft. wide and 235 ft. long, and nearly 40 ft. high, covered by a panelled barrel-vault, the walls on each side lined with a series of sixteen niches, the centre marked on one side by a square projecting bay, and on the other by a semicircular tribune 26 ft. wide. The gallery is lighted from above, and contains many of the most remarkable examples of Greek art. Crossing the great court parallel with the Braccio Nuovo, but at a somewhat lower level, is the Library, built under Sixtus V., in 1586, by Fontana. It is a hall 46 ft. wide and 235 ft. long, lighted by seven windows on each side, and divided by a line of massive square piers in the middle of its breadth, the ceiling on each side being divided into groined bays and painted in the liveliest style with arabesques and views in fresco and figures in the Pompeiian manner. The books and MSS. are contained in closed cases, which, as well as the piers, are painted in a style similar to that of the ceiling. The collections of the library have, since this hall was built, overflowed into the long western gallery flanking the great court, of which they now occupy the whole length of one story. (*See Figs. 203, 204.*)

The history of the Vatican begins as far back as the reign of Constantine, who built a palace contiguous to the old basilica of St. Peter for the residence of the clergy connected with the church, in which Charlemagne is said to have lived for a time at the period of his coronation by Leo III. The early buildings disappeared during the disturbances of the middle ages, and the oldest portions of the present palace probably date from the middle of the XII century. It was enlarged by successive popes, notably in 1278, 1447, and 1471, but did not become the papal residence until after the return of the popes from Avignon, in 1377. During the stormy periods of the XIV and XV cents., it was connected by a walled and covered passage with the Castle of St. Angelo, which had by that time been converted into a strong fortress. The Belvedere was built by Innocent VIII. and Alexander VI., between 1484 and 1504, as a villa. It was then separated from the Vatican by a rough hillside. Julius II., early in the XVI cent., conceived the plan of uniting the two buildings, and a comprehensive and magnificent project was devised by Bramante, of which, though it was never completely carried out, the drawings remain, and which contemplated a single unbroken court, more than 1,000 ft. long and 250 ft. wide, stretching from the old palace to the villa; the slope of the land corrected by a stately terrace midway, with two ranges of steps; the sides of the courts lined with three stories of arcades, the southern end made into a theatre, with ranges of curving seats rising one above another, from which to witness games and tournaments in the lower court; and the northern end closed by the new façade of the Belvedere with a great vaulted exedra or niche in the middle. The connecting galleries forming the sides of the court were built partly under Bramante, and partly after his death, by Sangallo, Peruzzi, and other architects, and the great exedra still suggests the splendor of the intended effect, which, however, was destroyed by the building, in 1586, of the Library across the middle of the courts. (See also *Villa Pia.*)

VIGNA DI PAPA GIULIO. See *Villa di Papa Giulio.*

The VILLA ALBANI, one of the most important and interesting of the great

suburban villas, lies on the northern edge of the city just outside the Porta Salara, and in the midst of very extensive grounds, laid out with the formal and elaborate art of the XVIII century. The principal building consists of a long casino with a central division two stories in height, and wings of one low story extending on either side, the entire length being about 260 ft. The outer elevation is plain and without openings, the wall being divided by pilasters and having a projecting entrance porch in the centre. The garden front has on the first story an open Palladian arcade of nine arches in the centre and seven lower on each side, enclosed in an order of rustic Ionic pilasters. The second story of the centre has an order of Corinthian pilasters on a high pedestal-course, with pedimented windows in the intervals, small round mezzanine windows above, and a balustraded cornice. At the extremities of the wings are porticoes, one with antique caryatids and the other with marble columns. Separated from the casino by a broad parterre is a semicircular open arcade about 90 ft. in diameter, at the centre of which is a small square pavilion. The works of the villa were begun about 1746 by Cardinal Alexander Albani, the cardinal himself directing the design, which was executed under his own supervision by Carlo Marchionni. The grounds were laid out by Antonio Nolli, and are remarkable for the great number of statues, bas-reliefs, vases, and other remains of ancient art with which they are judiciously decorated. The interiors were adorned by Raphael Mengs, the ceiling of the principal gallery having been painted entirely by him. The casino contained originally what was doubtless the most extensive and valuable private collection of ancient sculpture in existence, being surpassed in importance only by the galleries of the Vatican and the Capitol. But the greater part of the collection was stolen by Napoleon, who carried off nearly three hundred statues and bas-reliefs, which having been, after the peace of 1815, restored to the cardinal, were sold by him to the king of Bavaria and now form part of the royal collections at Munich.

The VILLA BORGHESE lies on the northern edge of Rome, its entrance being just outside the Porta del Popolo, and its grounds, which are of immense extent, are bounded on one side by the city walls. They include many buildings of various kinds, of which the most important is the great Casino or residence, built in 1605, for Cardinal Scipione Borghese, from the designs of Hans von Xantere, called Giovanni Vasanzio, a Fleming. It measures about 140 ft. in length and 120 ft. in depth, and is in two stories with a five-arched vaulted entrance vestibule in the centre of its main (garden) front, over which the wall is recessed and carried up two stories. It was much altered during the XVIII cent., when under the direction of Canina it was converted into a series of galleries for the remarkable collection of ancient sculptures belonging to the Borghese family. The gardens were laid out by Sabino of Montepulciano. The grounds are now freely used by the public.

The VILLA DORIA PAMFILI, lying a little distance outside the Porta S. Pancrazio, on the west of Rome, is one of the largest and most beautiful of all the suburban villas which surround the city, the circuit of its grounds measuring about four miles. The Casino is a square building of no great size, standing on the side of a large rectangular sunken parterre of formal arrangement, with extensive gardens before and behind. It is of two stories, decorated each with an order of Corinthian pilasters with pedimented windows and niches in the intervals, and with a high attic above. The façade toward the parterre has an additional basement story with an arched loggia. The casino was built by Algardi about

1650; the grounds were laid out by Algardi and Antinori.

Villa Farnesina. See *Palazzo Farnesina.*

Villa of Mæcenas. See *Auditorium of Mæcenas.*

The Villa Madama occupies a commanding site on the eastern slope of Monte Mario, a mile and a half N. W. from Rome. It consists of a casino of moderate size, raised on a high basement, of which the principal feature is a lofty open loggia of three round arches, faced with an order of Ionic pilasters which is continued around the building. This loggia, which opens from the extremity of an elevated bridge-like terrace, is vaulted, and its walls and ceilings are famous for their decoration by Giulio Romano and Giovanni da Udine. The remaining portion of the casino is in two stories, and presents nothing remarkable. In the rear is a finely conceived semicircular court which remains incomplete. The villa was built early in the XVI cent. for Cardinal Giulio de Medici, afterward Clement VII. Raphael furnished the designs, which were carried into execution with alterations by Giulio Romano. It was never finished and has long been in a ruinous condition.

The Villa Medici, one of the most familiar of the Roman villas, occupies a commanding site on the Pincian Hill, standing in the midst of extensive grounds adjoining the public pleasure grounds of the Pincian, and bounded on one side by the city walls. The principal building is a rectangle of about 37 ft. by 85 ft., with an entrance front of simple design in two stages, each with a principal and mezzanine story; and a picturesque and disorderly façade toward the garden, popularly ascribed to Michael Angelo, with a centre and two slightly advancing wings, the centre having on the ground-floor an open loggia with a high middle arch, and an upper story with three windows with pedimented caps. This central division is flanked by two square towers. The whole façade is adorned with ancient bas-reliefs, architecturally disposed in panels. From the extremity of the casino a long gallery projects at right angles with it, containing a fine collection of ancient sculpture. The villa was begun about the middle of the XVI cent., by Cardinal Giovanni Ricci da Montepulciano, and finished somewhat later from the designs of Annibale Lippi. It was ceded to the French Government in 1802, and became the home of the French Academy, at which the students sent to Rome by the École des Beaux-Arts at Paris pursue their studies.

Villa di Papa Giulio, the villa of Pope Julius III., on the Via Flaminia, about a mile outside the Porta del Popolo, though now in a neglected and decayed condition, is still one of the most interesting, as it was originally one of the most sumptuous and elegant, of the pleasure-houses of Italy. It was begun early in the XVI cent., by Cardinal di Monti, and was continued by his nephew, also a cardinal, who became pope under the name of Julius III. It stands in the middle of an extensive estate known as the Vigna (vineyard) di Papa Giulio, about 400 yards from the Via Flaminia. At the corner of the way by which the villa is approached is a casino, also built by Vignola, with a singular plan—open arcades in the first story partially surrounding a hexagonal court, and a great staircase ascending to the second, which contains a suite of apartments decorated with much beauty. The façade presents below a blank wall with an arched doorway in the centre, of rustic masonry enclosed in a portico of columns. Above is an open loggia with square windows on each side. The corner is cut off, and makes room for a fountain enclosed in a central arch with two orders of pilasters. The plan of the villa itself is at once picturesque and stately. A great *corps-de-logis* fronts the road, and behind it are two high-walled

open courts, front and rear, separated by a second range of buildings, and closed in the rear by a third. The finely proportioned façade has a length of nearly 150 ft., with receding ends. Each story has a central composition of columns and pilasters, of rustic work in the first story, and on each side square-headed windows in both stories, carrying a full entablature and pedestal-course between the stories and a double-modillioned cornice under the roof, all designed with finely elaborated and elegant details. The front of the first and larger court, 90 ft. by 160 ft., is semicircular, and bordered by an open vaulted loggia in horseshoe form on the ground-floor, above which is a range of apartments connected with those in the façade. Two orders of pilasters and an upper range of windows continue the composition of the façade round the semicircle. The loggia is treated with a row of small Corinthian columns in the intervals of the pilasters, carrying a horizontal architrave, and only interrupted at the ends and in the middle by great arches. The high side-walls of the court are architecturally decorated with a blind arcade under an Ionic order, with an attic above. The second and smaller court drops considerably below the first, and from the open loggia that separates them a quadrant staircase leads down on either hand, repeating the lines of the upper court; while in the middle of the pavement is sunk a semicircular nymphæum, guarded by a balustrade and surrounded by pilasters and caryatids, between which are niches where water flowed continually into a series of basins. At the back of the court is a vaulted grotto, and above it a cross-gallery broken by a triumphal arch which leads to a walled garden, terraced above the level of the first court. The interior decoration of the principal building is of great richness; the vaults of the arcades are painted with arabesques, birds, and figures, and the walls are divided into panels with similar decoration. Near by, on the same estate, stands Julius's votive Chapel of S. Andrea (*q. v.*).

Villa Pia, an elaborately designed pleasure-house in the gardens of the Vatican, of which the buildings are disposed round an elliptical court on the slope of a hill. At the front is a pavilion, consisting of an open vaulted loggia about 23 ft. wide and 40 ft. long, on a level with the court, and a basement fronting the grounds and adorned with fountains and statues, on either side of which a curving staircase leads to the level of the court, which is entered at each extremity through a small pavilion in the form of a temple. The court is about 85 ft. long and 65 ft. wide, paved with mosaic, with a fountain in the middle, and surrounded by a high panelled wall lined with continuous benches of marble. On its fourth side stands the casino, with a façade about 40 ft. long, in three stages, the first with an open entrance loggia decorated with mosaics, bas-reliefs, and stucco arabesques. The whole front is also lavishly adorned in the same manner. The building has a depth of some 80 ft. and occupies a level rectangular terrace in the hillside, enclosed by a high wall decorated with niches containing statues. The apartments are sumptuously decorated with paintings, sculptures, mosaics, and fragments of ancient art. The villa was built in 1560 for Pius IV., from the designs of Pirro Ligorio.

RONZANO, Italy.

Sta. Maria belongs to the small group of primitive Romanesque churches in this part of the Abruzzi. Its ground-plan is basilical with three apses, its style broad and simple. The nave consists of high recessed round arches supported on piers so grouped as to sustain primitive groin-vaults which at some time fell in and have been replaced by a wooden roof; the upper part of the outer wall was then rebuilt. The piers and arches consist of

very white stone. The transept retains its three groin-vaults with very heavy torus ribs in the central compartment. High triumphal arches open out from this compartment. As the style of the church points to the close of the XI or beginning of the XII cent., and as a document of 1183 speaks of it as already in existence, it is interesting to note the use of groined vaults, which at this period, in this region, is most unusual. It is probably due to Lombard influence. [A. L. F., Jr.]

RUVO, Italy.

The CATHEDRAL (Sta. Maria Assunta) is a small rectangular basilica, rebuilt near the beginning of the XII cent., about 100 ft. long and 65 ft. wide, the high nave separated from the aisles by five round arches on each side springing from square piers, with half columns on three sides, while on the faces toward the nave vaulting shafts were added, although the nave remains ceiled with wood. Over the arcades runs a decorated string-course on strong sculptured corbels, on which is a range of grouped windows divided by columns and covered by a flat elliptical bearing-arch, evidently to light an upper aisle which does not now exist. Above is a range of smaller single clerestory windows blocked up. The aisles are groined in square bays separated by transverse arches, and from each bay opens a shallow rectangular chapel, also groined. The broad transept has a wooden ceiling like the nave, and crosses the whole church in three equal bays, with three eastern apses. The façade is of unusual outline, the central nave gable being very narrow in proportion to the rest, and the half gables covering both aisles and chapels. There are three doors, under three blind arches, an ellipse between two pointed arches. The middle door has a broad, heavy round arch, with flanking columns standing on the backs of lions and bearing griffins, and is surrounded by four sculptured bands of more or less Byzantine character. The nave gable is filled by a large and fine wheel window, over which is a round-headed niche containing a seated figure, and beneath is a two-light window enclosed by a round bearing-arch. The cathedral is the rebuilding, begun in 1060 and finished in 1110, of an older church dating probably from the end of the VIII century.

RUWEIHA, Northern Syria.

The CHURCH, probably of the VI cent., is curiously different from the usual Syrian type. It stands apart in a walled enclosure like a peribolos, some 185 ft. by 220 ft., and is of considerable size, being 150 ft. long and 60 ft. wide. It has an open narthex or porch, entered by a very broad central arch between two small ones, a nave and aisles, and an apsidal sanctuary between two chambers, as usual in Syria, covered by a straight wall. The nave, of 30 ft. span and 100 ft. long, is in only three bays, with great arches borne on piers which are bound together in pairs by two other great arches springing across the nave, as in S. Miniato at Florence, and some other Italian churches, and resting on fluted pilasters against the sides of the piers. On each flank are two doors into the aisle, covered by porches which rest on pairs of columns. There are two interesting tombs in the enclosure. One is a square building containing a square chamber with arcosolia on each side, through one of which it is entered, and covered with a spherical dome. Over the door is a porch standing on two detached columns, and Corinthianesque pilasters mark the corners of the building. The other tomb is a small temple with a recessed portico of two columns *in antis*. It stands on a high basement, and is in two stories.

SAGALASSOS (Aglasoun), Asia Minor.

CORINTHIAN TEMPLE, within a large enclosure bordered with porticoes and exedras. The temple is peripteral, hexa-

style, with eleven columns on the flanks, raised on a basement, and with four steps between projecting piers in front. There was a second row of columns before the pronaos, which has two columns *in antis* and is very deep, the front wall of the comparatively small cella being placed opposite the two middle columns of the peristyle. The decoration is rich and well executed; the soffits are sculptured with a scroll-ornament, and the frieze and the uppermost member of the cornice with spiral foliage-patterns. The cornice has lion-heads for water-spouts. The temple measures in plan $51\frac{1}{2}$ ft. by 94 ft.

THEATRE, supported against the hillside, but in large part built up with vaulted substructions. The plan is much greater than a semicircle. There is one precinction or horizontal passage, with twenty-four tiers of seats below it, and sixteen above it, and a podium on its inner side, in the Roman fashion. There are nine radial stairways, including those at the extremities, in the lower division. They are doubled in the upper division, but not continuous. There was probably a portico above the upper division. The stage-structure formed a long, narrow hall with five doors, only three of which appear to have opened on the stage. The depth of the stage was 24 ft. The diameter of the theatre is 288 ft., that of the orchestra 75 ft. The remains are in comparatively excellent preservation.

There are other remains of much importance on the site, including a palæstra (?), a small circular temple, a street bordered with porticoes and spanned by a monumental structure at its intersection with another street, and several necropolises. There are scanty remains of the ancient fortifications.

SALERNO, Italy.

The CATHEDRAL, originally dedicated to the Virgin but afterward to St. Matthew, whose body is said to have been brought here in 954, is a fine XI cent. church, consecrated in 1084, which was, however, so changed by a practical rebuilding in the XVIII cent., that much of its interest has disappeared. The great quadrangular fore-court which precedes the church is preserved. It measures about 113 ft. by 102 ft. and is surrounded by vaulted arcades, with round arches supported on ancient columns of various kinds of marble, taken partly from the ruins of Pæstum and partly from those of Rome. Behind the eastern arcade rises the plain façade, with a low pediment in the centre and half gables at the sides. Under the arcade three doorways give access to the nave and aisles, the middle one closed by fine bronze doors from Constantinople, given to the church in 1099. A

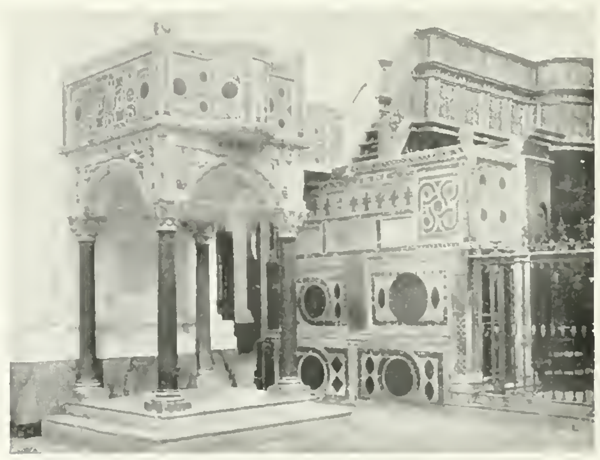


Fig. 105. Salerno Cathedral Pulpit

square tower rises on the south side of the church, in several stages, the lower of which belong to the early construction, perhaps dating from 1130. The interior consists of nave and aisles of seven bays, and transept, and three eastern apses. In 1722 square piers replaced the original

columns, and the interior was travestied. The crypt is remarkable for the richness of its decoration; the vaults, supported on square piers whose faces are inlaid with precious marbles, are covered with paintings of figure subjects, and the walls with arabesques. It consists of three aisles, of eight bays each and three apses, underlying the transept and choir. (*See Fig. 205.*)

SALONA, Dalmatia.

BASILICA. A Christian church of the V or VI cent., ruined at the destruction of Salona in 639, and only recently explored. Its plan is somewhat peculiar and not wholly intelligible. On the west was a narthex, and behind it a wide nave and aisles divided by arcades of nine arches, the columns of which stood on a continuous stylobate. The nave and aisles abutted eastward against a thick wall, pierced with five doors which led into a sort of transept with an eastern apse. On the north side of the church was another aisle running the whole length, and opening by triple arches into two apsidal chapels. Remains of similar chapels are found in continuation toward the east, beyond the main church. In these chapels were found many fine sarcophagi, of which the most important are now in the museum of Spalato. A small chamber in the eastern transept had a sepulchral vault beneath, with an outside entrance closed by a sliding stone door. Many tombs like this are in and about the site of the basilica, and the excavations below the floor level have revealed a great number of sarcophagi and some older foundations, showing that the church was built upon an old Christian burying-ground and on the site of some more ancient building. The sculptured ornament found seems to prove it to be not older than the age of Justinian.

An OCTAGONAL STRUCTURE, surrounded by a peristyle, the bases of whose columns remain in place, and enclosing a basin, is held to be a part of the thermæ. A little beyond lie the remains of another building also with columns. The mosaic pavement is intact, and the sills of the doors are still in position.

The ROMAN WALLS of the city can be followed through much of their extent. There are two ancient gateways flanked by towers, and other towers are found along the circuit. On the west side long walls extend for over a mile on the road toward Traü; they evidently joined the city originally with some port having deeper water than that of Salona. They are built of very large blocks, rectangular and carefully jointed, but rough faced. In the N. E. corner of the western part of the ancient city, in part engaged in the fortification-wall between it and the eastern part, are the remains of a Roman amphitheatre, presenting the usual features. The structure is surrounded in the basement by a corridor, to which access is afforded by several arched openings. Most of the seats have been carried away. To the right of the road from Spalato are seen the remains of the aqueduct which brought water to the palace of Diocletian; it has been repaired and still serves. An ancient bridge on this same road, crosses the Giadro (ancient Iader).

SALONICA (Saloniki, Thessalonica), Turkey.

APOSTLES' CHURCH. This is in plan essentially like its neighbor Sta. Sofia (*q. v.*), though much later in date, but its central dome is carried on columns instead of piers, and its aisles are in one story. The original narthex remains, however, crossing the front as an open porch with a singular triple arch on each side the central door. The central dome, of 52 ft. span, stands on a tall octagonal drum, arcaded on the outside and windowed. Similar smaller domes rise over the corners, and the Turks have added a slender minaret. The style is that of the VII cent., or later.

The INCANTADA, so-called, is a Corin-

thian monument of uncertain purpose. It has been variously explained, as a monument of victory, as the entrance to a theatre, hippodrome, or forum, as part of a basilica like the so-called Tutelles at Bordeaux, and as a funeral monument like the mausoleum at Mylasa. Local tradition calls it a gallery which connected two palaces of Alexander, and ascribes its construction to magic, whence its Spanish name (Las Incantadas). The remains are in the Jewish quarter of the city, and consist of five monolithic Corinthian columns of cipollino with an entablature of Pentelic marble. The frieze is bulging and carved with rods; the cornice has Ionic dentils, and above it there is an attic adorned with a series of standing figures. The design and execution of the reliefs and details are so good that it cannot be later than the age of the Antonines, 193 A.D.

Fig. 206.—Salonica, St. Demetrius.

St. Bardias is a little abandoned brick church, built, according to an inscription, in 937, on the common Byzantine plan of a Greek cross set in a square, with barrel-vaulted arms, a central dome on four columns, and four small ones in the angles. The main dome has a windowed drum, octagonal without; there are three eastern apses, the middle one octagonal outside, and a narthex, of which the high upper story probably served as a women's gallery.

St. Demetrius, now a mosque, is a very early five-aisled basilica, dating from the V or VI cent., and on a large scale, being very nearly 200 ft. long by 140 ft. wide. It has practically no exterior, but is hemmed in by the buildings about it. A cramped court, replacing the old atrium, and containing a basin for ablutions under an octagonal canopy, leads to a high narthex that opens by a triple arch into the west end of the nave. On the left of the narthex, in a small, square, crypt-like, and dome-covered chamber, is the plain brick tomb of St. Demetrius, the so-called Myroblete, from whose body flowed the miraculous oil that has saturated the walls and floor of the chamber. The lining of marbles, and the ornaments of gold and silver set with precious stones, that once made the place splendid, are gone. The nave, almost 40 ft. wide, has an open-timbered roof about 70 ft. high to the ridge. It is bordered on each side by thirteen round arches, borne on composite columns, and peculiarly arranged in three groups of four, five, and four, sepa-

rated by square piers. If this arrangement is original, it is perhaps the earliest known example of the grouping of nave-arches, and may have led the way to the system of double bays in the Lombard churches. It has been assumed to be an accident here, due to successive lengthenings of the church, but it is absolutely symmetrical, and has all the appearance of studied design. Over the main arcade is a second, carried on Ionic columns, and opening into an upper women's gallery, or *gynecæum*, over the inner aisles, which connects with the second story of the narthex. Above the two is a clerestory of low arched windows, grouped in twos, with intermediate shafts. The walls have been revetted with marble, perhaps in the XI cent., somewhat in the fashion of the cathedral at Pisa, and a curious simulation in mosaic of a modillion cornice is carried along above the lower arcade. A balustrade of carved marble panels fills the intervals of the upper columns. The like the prothesis and diaconicon of the early eastern churches, but enclosed by open arcades instead of walls. The screens, however, which divide them from the choir have evidently been added or altered in the middle ages. All the columns are monoliths of white, red, or green marble, the capitals are admirably cut, and all carry stilt-blocks, which are marked with the monogram of Christ, or with the cross. The mosaics which once covered the conch of the apse have disappeared, and the marble lining of the church has suffered much. The building is said to have been further injured by a recent fire. (*See Fig. 206.*)

St. Elias is a Byzantine church of peculiar plan, built apparently at the beginning of the XI century. It is a cross with short arms, three of them with apsidal ends, and a single central dome. Before the western end is a great narthex, as broad as nave and transept, and 25 ft. deep, vaulted in six bays with four de-



Fig. 207.—Salonica, St. George.

outer aisle, lower and broader than the inner, is like it divided into two stories. At the east end is a domed apse, and instead of a transept are two rooms placed

tached columns. Over this hall is an upper tribune half as deep as the hall, and perhaps a women's gallery (though it has been thought that only men frequent-

ed the churches of St. Elias), its front wall resting on the vault beneath. The dome is on a very high drum, polygonal without, arcaded and windowed, and is covered by a low pointed and corrugated roof: the three apsidal ends are also polygonal without and windowed. The church is of brick, with bands of lozenge and meanders. The whole church is about 50 ft. by 90 ft., and the dome 65 ft. high.

St. George, called the Rotunda, and now used as a mosque, is a massive early round church, about 80 ft. in diameter inside, and with walls nearly 20 ft. thick. It is covered by a hemispherical dome, rising to 86 ft. above the floor. In the thickness of the walls are eight square niches, those on the south and west serving as entrance porches, the rest as chapels, except the eastern, which is larger than the rest, and, piercing the wall, is continued into a deep sanctuary, or bema, ending in a round apse lighted by five windows. Eight windows over the niches light the building, and above them the wall, diminished one-half in thickness, is carried up as high as the top of the dome, and bears a conical roof. The whole is severely plain, within and without, except that the dome and the barrel-vaulting of the niches retain in great part their splendid lining of mosaics, representing figures of saints and architectural backgrounds. The date of the church is uncertain; it has been assigned to the IV, VI, and VII cents., and was even believed for a time to have been a Roman temple. (*See Fig. 207.*)

Sta. Sofia, the former cathedral, now a mosque, was built, according to the Greek tradition, by Justinian, in imitation of its namesake at Constantinople, to which, however, it has no resemblance except in style, being in plan a Latin cross enclosed in a square, with a central dome borne on piers and a long eastern limb containing the sanctuary, and ending in an apse round within and semi-octagonal without. The transept is short, and the square is surrounded on three sides by a wide aisle, whose second story is a women's gallery, enclosing the nave and transept in an outer square of 100 ft. Two small rooms, the usual prothesis and diaconicon, flank the main apse, and both end in round apses. Arcades in two stories, with columns quasi-Corinthian below and quasi-Ionic with high stilt-blocks above, divide the aisle from the centre. The dome and the main apse still preserve their original mosaics on a gold ground, well executed compositions representing the Saviour, the Virgin, and the twelve apostles. The Turks have built an open porch across the front, with pointed arches on modern columns; it is flanked on the south by a minaret, and on the north by a small bell-tower of uncertain date. A pulpit of verd-antique in the church is reputed to have been used by St. Paul. The building has been seriously injured by fire within a year or two.

Triumphal Arch of Constantine, half ruined, but described as one of the most remarkable ancient monuments surviving in the Orient. It is near the eastern end of the long street which intersects the city from east to west, and preserves the line of the Roman Via Ignatia. It is of brick encrusted with marble, and consisted originally of three doorways. It is ornamented with sculpture in which camels figure, and is believed to commemorate Constantine's victory over Licinius or over the Sarmatians.

Vardàr Gate, a Roman triumphal arch at the west end of the long street which intersects the city. It is built of large blocks of marble with reliefs on its outside face, and an inscription giving the names of city magistrates. The opening is now 12 ft. wide and 18 ft. high; but a considerable part of the monument is buried. Some scholars have maintained that this arch was erected in honor of Octavius and Antony after the battle of Philippi, but it is evidently later.

SAMARIA. See *Sebaste.*

SAMOS, Ægean Sea.

The AQUEDUCT OF EUPALINOS was considered by Herodotus to be one of the greatest of Greek works. It begins at a point N. W. of old Samos, where now stand three small chapels called the Hagiades, and a copious spring still flows from the rock. It has been traced from an ancient reservoir under one of the chapels for about 7,200 ft., into the heart of the old town, and probably extended to the shore of the port, near which in the agora there were in ancient times three noteworthy water-clocks. The most remarkable part of the aqueduct is the tunnel, which extends for over 3,000 ft., for the most part through solid rock, under the hill, 739 ft. high, now called Kastro. This averages 6 ft. square; it was bored from both ends simultaneously, as is shown by the slight fault at the meeting, a little south of the middle, of the two portions. But for this defect, the tunnel is perfectly straight. Through it extends a channel about 2 ft. wide, increasing in depth from 6 in. to about 27 in. at its exit, and evidently cut to secure a better fall for the water. In it are still abundant remains of the earthen water-pipes, of which two kinds were used — one cylindrical, the other an open trough. Several weak portions of the tunnel are encased in walls of Hellenic masonry, and roofed by stones inclined against one another; other such portions were walled up by the Romans with masonry laid in mortar, and arched over. The engineer of this great work was Eupalinos of Megara; it was carried out by King Polycrates, who died 522 B.C. It is hoped that the aqueduct may soon be repaired entirely and perform anew its old function of carrying fresh water to the port.

The HERAEUM, or Temple of Hera, was about two miles S. W. of the city of Samos, on a height overlooking the sea. The original structure, built by Rhœcus (who as early as the VII cent. B.C. was at the head of a famous school of sculpture and architecture at Samos), and by his son, Theodorus, was burned by the Persians, but was rebuilt probably under Polycrates, in the VI century B.C. This was the largest temple known to Herodotus. It was Ionic, decastyle, dipteral, of white marble in the superstructure, with foundations of tufa. As the solitary column still standing is not fluted, the temple was probably never finished. The excavations of M. Girard upon the site, in 1879, disclosed a number of bases of columns and portions of the foundation. While his investigations have shown the incorrectness of the plans of the temple given by his predecessors, they were not carried far enough to supply data for a correct plan.

SAMOTHRACE, Ægean Sea.

DORIC TEMPLE, of marble, of Hellenistic date, and in several ways anomalous in plan. It was hexastyle, prostyle, with a prostasis of three columns on the sides, on a stylobate of three steps, before the pronaos. The prostasis had an interior range of columns opposite the third columns of the flanks. The steps were not continued around the cella. In plan the temple was abnormally long and narrow. The total length was 120 ft.; width of cella, 43 ft.; width of prostasis, including steps, 47½ ft.; interior dimensions of cella, 34¾ ft. by 85 ft. The foundations remain of two partition walls extending back 54 ft. from the front wall, and dividing the cella into nave and aisles: no remains have been found of ranges of columns which could have stood on these foundations. Though the cella ends externally in a square back wall, it is curved inside in the form of a shallow apse. The proportions of the architectural members are notably slight, akin to those of the temple at Nemea, and approaching those of the Corinthian order. The height of the columns is about six and a half diameters, the entabla-

ture low, the pediment high. The profile of the capitals is a straight line. The cyma of the cornice is ornamented with a spiral acanthus moulding, and with lion-head water-spouts. An elaborate anthemion acroterium stood on the apex of the pediment, and Victories formed the acroteria at the sides. Several figures of the pediment-sculptures have been recovered. The execution is good.

Old Temple, so-called, an Ionic structure of which only portions of the foundations remain in place. The reliefs of the frieze, representing dancing female figures, are in the Louvre. The cornice had dentils, and the cyma was ornamented with lion heads and anthemia, and crowned with antefixes in the form of palmettes.

Propylon of Ptolemy II., a double hexastyle Ionic portico of large-grained white marble from Thasos. The columns have twenty-four flutes; the architrave is high and the frieze ornamented with bucrania and rosettes, comparatively low. The dentils of the cornice are proportionately large, and the pediments were of very low angle.

Round Temple, dedicated by Queen Arsinoë, daughter of the first Ptolemy, and wife of the second. The foundation is solidly built of well-fitted blocks of common stone, and is 8⅓ ft. through. The superstructure was of marble, with a diameter of 62 ft. The building consisted of a drum of masonry of uncertain height, upon which stood forty-four square piers, with anta-capitals, supporting a Doric entablature, the cyma bearing acanthus spirals and lion heads. A moulded frieze surrounded the building beneath the piers, and in every intercolumniation was a barrier carved with a rosette between two bucrania, and above this a heavy slab of marble. It is uncertain whether there were windows in this. The wooden roof was conical, and may have had an opening for light at the apex. In the interior forty-four Corinthian semi-columns corresponded to the exterior piers, and the barriers were ornamented in alternate intercolumniations with pateræ and bucrania. The workmanship is good, but the proportions are sometimes defective, and the ornament lacks the freedom of the best work.

There is a large temple of late Doric style, prostyle, with six columns in front and three on the sides, and two columns with a double intercolumniation between them, between the antæ of the cella.

The Walls of the ancient city are a notable example of polygonal masonry in very large, rough blocks with open joints. The wall, originally about 18 ft. high and 7 ft. to 13 ft. thick, is broken into angles for the sake of defence. Of three gates which remain recognizable in a course of over half a mile, one is complete; it is spanned by blocks projecting horizontally from the sides. The wall is doubtless very early, as is indicated not only by its construction, but by the circumstance that the chief buildings of Samothrace lie outside of it.

SAN BENEDETTO, near Mantua, Italy.

The Church is a great cruciform structure, built, or remodelled, by Giulio Romano in 1539. Its interior is interesting, and has a long nave and aisles, transept, apsidal choir, and surrounding aisle, with five radiating chapels, a border of lateral chapels on each side, and an open vaulted porch across the front. The whole is about 325 ft. long, and 130 ft. across the transept. An octagonal dome covers the crossing. The groined nave-vault is carried on piers faced with an order of pilasters. The vaults of the square bays of nave and aisles are singularly arranged. In the first three bays the so-called Palladian motive is repeated—an arch between two square-headed openings, with dividing columns. The aisle-bays, half as long as those of the nave, are

in a curious alternation with them, and are alternately groined and barrel-vaulted, closing with a half bay at each end.

SAN GALGANO, near Siena, Italy.

The Abbey Church, of the XIII cent., was one of the most characteristic Gothic churches in Italy. It is roofless, and the vaults mostly fallen, but the walls are well preserved. The abbey was Cistercian, a dependent of Casamari, and the church, like those of Fossanova and Casamari, is of the French type. It is cruciform, with a square-ended choir of one bay, and aisles to both nave and transept. The nave and isles, in eight bays, had four-part pointed vaults; the choir vault was six-part. The arches are pointed throughout, the abundant carving partly French and partly Italian. There was no triforium, but a clerestory of large traceried windows, and large rose-windows in the south transept and the east end. The building, lofty and imposing, is mostly of Travertine, but the later and upper parts in brick. The front was never finished. There is no indication that it had the usual Cistercian central tower: a tower added at the S. E. corner of the transept has fallen.

SAN GEMIGNANO, Italy.

The Collegiata, or Pieve (Parish Church), is a basilica of the XII cent., consecrated in 1148. Its arcades of stilted round arches are carried on old columns with varied capitals: but the interior was rebuilt with new vaulting and lengthened transept in the XV cent., by Giuliano da Majano, and the church has since been much modernized, with the addition of chapels. It is most noted for its interior decoration of frescoes, especially in the chapel of Sta. Fina, where there are paintings by Domenico Ghirlandajo, Benozzo Gozzoli, and Pollaiolo, and a finely sculptured altar by Benedetto da Majano.

The Palazzo Pubblico dates from the XIV century. It is a Gothic building of rectangular plan, measuring about 65 ft. by 100 ft., with a picturesque interior court from which the open gallery on the second story is reached by a stone staircase, supported by a broad segmental arch with a fine wall under it. The façade is of brick, about 70 ft. high, and the main floor is reached by a double flight of steps from the street under a projecting balcony. There are four stories above the basement, the windows all covered by segmental arches, and those of the first story having a pointed bearing-arch. At the angle of this front stands a fine square brick tower called the Torre del Commune, somewhat earlier than the palace, about 30 ft. square and 160 ft. in height, with an open archway at the foot through which a street is carried, and small segmental-arched openings at intervals, but no distinct belfry stage. It is finished with an arched corbel-table and square battlements.

SAN GERMANO (or Cassino anc. Casinum), Latium, Italy.

Amphitheatre, small in size, but, so far as the exterior is concerned, of very perfect preservation, built by Ummidia Quadratilla, a woman lauded by Pliny the younger. It is an imposing ruin. The walls are faced with reticulated masonry, and six arched entrances still remain. The interior has suffered much; its area is now under cultivation. One side of the structure was in part supported by the slope of the mountain. The ruins are standing to the height of 56 ft.

SAN GIMIGNANO. See *San Gemignano.*

SAN LIBERATORE, also known as San Salvatore, Italy.

The Monastery, of uncertain date, mentioned in the IX cent., was rebuilt, including the church, early in the XI century. The church is a basilica with nave and narrow aisles separated by seven arches on each side, springing from square piers, and opening into a narrow transept divided by two arches in the line of the nave arcades into three bays, each with a

round apse in the eastern wall. All the ceilings are of wood. The façade has an open porch covering the whole breadth of the church, divided into three vaulted bays corresponding to the nave and aisles, and approached by a flight of steps as broad as the middle bay. A gallery is over the porch, and at its right is a square battlemented tower in several stages.

SAN MARTINO, near Viterbo, Italy.

The CHURCH remains from a Cistercian abbey of the XIII century. It is cruciform, about 225 ft. long and 100 ft. across the transept, and has a nave of four square bays separated from aisles of eight bays by pointed arcades carried on alternate grouped piers and columns, the choir, of half a bay, ending with a polygonal apse. The transept arms and the choir, lower than the nave which includes the crossing, have six-part vaulting; all the rest of the vaulting is four-part. A small square central tower is curiously balanced on the diagonal vaulting-ribs over the crossing. There is no triforium, but an ample clerestory, and all the windows, those in the aisles being exceedingly small, are round-arched, except a small rose high up in the gable of the south transept, and a large pointed traceried window in the west front. This front is simple, built up to a horizontal cornice over the original gable, and has a single round-arched door under the traceried window. Two small square towers flank it, with round-arched belfries, and low spires, or pyramidal roofs of stone. The choir is thought to date from the beginning of the XIII cent., the body of the church from the middle, and the façade, or its termination, from the XIV.

SAN MINIATO AL TEDESCO, Italy.

The CATHEDRAL, dedicated to Sta. Maria and S. Genesio, is an early Renaissance church, probably built on the foundations of an earlier basilica, and dates from 1488. Its nave and aisles, about 100 ft. long, are divided by arcades of seven round arches on each side, supported on Ionic columns, and surmounted by an entablature, over which is a flat wall pierced with round windows. There is a long transept with a rectangular choir beyond, each arm extended into a long rectangular chapel, and three square chapels open from each aisle. The ceilings in nave and transept are flat; elsewhere they are vaulted.

SAN PELLINO, Italy.

The CATHEDRAL is a Gothic church, probably of the XII cent., standing on a deserted plain at some distance from the town, among the ruins of the Roman city of Corfinium, from the materials of which the church was built. It is a cruciform basilica about 135 ft. long and 55 ft. broad, with a long nave separated from the aisles by seven arches on each side, springing from square piers. The aisles are lighted by small pointed windows. The raised transept, which is the choir, projects slightly beyond the aisle walls, with an apse at each end, and is crossed by the main arcades. The middle bay is covered by an octagonal dome. The ceilings are all of wood. There is a fine pulpit dating from the latter part of the XII cent., square, supported on four stout columns with composite caps, without arches, carrying a delicate sculptured frieze above which the sides are panelled and decorated in relief. The front is modernized; the flank walls both of aisles and clerestory, also the apses, are divided by thin pilaster strips running up to arched corbel-tables. The eastern apse is encircled by two ranges of engaged columns, the lower bearing a sculptured frieze, the upper, blind arches with reliefs in the heads. From the south aisle opens a smaller transverse church, dedicated to St. Alexander, 65 ft. long and 28 ft. broad, with an apse in the eastern side.

SAN PIETRO IN GALATINA, Italy.

STA. CATERINA. An old church dating originally from the XI cent., but rebuilt

with important changes of form about 1380. Its plan is singular: a nave divided by transverse pointed arches into three square groined bays, with a blind pointed arch on each side of each bay rising to the height of the clerestory, and a narrow pointed window in the arch head. Under each blind arch a low pointed arch opens into a narrow longitudinal corridor, outside of which is a long undivided aisle, covered by a slightly pointed barrel-vault. A square groined bay continuing those of the nave forms the choir, from which opens on the east an octagonal chapel with a very high Gothic vault, the ribs springing from slender angle-shafts. Each side of the octagon has a round window high in the wall. The front is in two stages, the lower of which has a rich central doorway with deep jambs, a sculptured lintel, and painted tympanum under an enclosing arch and gable. Similar doorways give entrance to the two corridors. The lateral walls have low gables. The raised central division is covered by a gable with an arcaded corbel-table following the rake, and a small wheel-window with decorated label. At the base of the gable on either side is a kneeling figure; and flanking the gable wall on each side is a high detached octagonal shaft like a turret, carrying a similar figure. The sculpture of the church is interesting; its character is strongly Byzantine. The interior walls are covered with frescoes of the early XV century.

SAN RUFO. See *Teggiano*.

SAN SALVATORE. See *San Liberatore*.

SANTA MARIA D'ARBONA, Italy.

The CHURCH was attached to a Cistercian monastery founded in 1208 and peopled with monks from SS. Vincenzo ed Anastasio in Rome. It has a cruciform plan, with a very short nave in two oblong groined bays of unequal breadth, the very low round arches springing from massive grouped piers with half-columns rising through the clerestory to take the spring of the cross ribs. The brick vaulting is pointed. The clerestory walls are pierced high up with simple round-arched windows. The aisles, which seem to have been added a half-century later, have pointed windows. The choir is in two oblong groined bays like those of the nave, and two narrow bays on each side; and two deep chapels flank the transept on each side. The vault of the crossing, carried somewhat higher than the rest, has a round opening at the crown. The façade is in three divisions separated by pilaster-strips, with a single doorway in the centre. A horizontal arched corbel-table crosses the front at mid-height.

SANTA MARIA DI FALLERI (Roman Falerii), Etruria, Italy.

The ancient TOWN-WALL remains in great part, with its gates and towers, forming a circuit of about 7,000 ft., and interesting as one of the best specimens of Roman fortification. The towers are square and project about 10 ft., the gateways are arched, and the masonry is regular, in courses of large blocks presenting a markedly Etruscan character. The wall in one place rises to a height of 58 ft., and it is one of the most imposing examples of ancient fortification in Italy.

SARBAT EL-KHADIM, Sinaïtic Peninsula, Arabia.

TEMPLE OF HATHOR, on an elevated platform of rock. The small *sekos*, the most ancient part of the temple, is excavated from the rock; its roof is supported by a central pillar, and portions of the ancient painted decoration of hieroglyphs and pictorial subjects remain on the walls. Beside the sekos is a second chamber without ornament, and before both extends a portico of columns with Hathor capitals. There is also in connection with the temple a large building divided into small rooms. In the portico and in front of the temple are many pyramidal steles, with hieroglyphic inscriptions. The whole is enclosed by a wall, the space within be-

ing about 167 ft. by 69 ft. The sekos dates from Amenemhat III., the portico from Thothmes III. The temple was founded in connection with neighboring mines of turquoises and of copper.

SARDINIA, Mediterranean Sea.

The NURAGHI consist of circular towers of stone, in the form of truncated cones, of one, two, and perhaps occasionally three stories, having within a circular chamber generally about 15 ft. in diameter, covered in beehive form by corbelling out the stones of the wall. The chamber, entered by a very low door, sometimes has smaller chambers opening into it, and sometimes one or two small windows. The masonry, assembled without cement, is sometimes very rude, sometimes comparatively good, often, especially in the lower parts, of enormous stones. The chief of these monuments are those of Zuri, Nieddu, Losa, Oes, Sarecci, and Ortu. Occasionally, as at Ortu, near Domus Novas, province of Iglesias, there is a considerable group of such towers, connected by walls forming curtains, and surrounding a larger central tower, the whole thus presenting much analogy with a mediæval castle. The object of the nuraghi is uncertain; some archæologists hold that they are tombs, but this is improbable, as the known tombs of ancient Sardinia are of very different character. It is also improbable that they are temples. The most reasonable hypothesis is that they are places of refuge against a sudden invasion. Their date is also uncertain, but it is most likely that they are not of very high antiquity. They may be paralleled with the much smaller but very similar structures called *truddhi*, still erected by the husbandmen of the Puglie region in southern Italy, as refuges against the weather or temporary dwellings.

SARDIS (Sart), Lydia, Asia Minor.

TEMPLE OF CYBELE. The east front is beneath the acropolis, the west on the bank of the Pactolus. The original building was burned in the Ionian revolt, 499 B.C.; the present structure is probably of the time of Alexander the Great, IV century B.C. The remains consist of two columns of the east front and truncated portions of four others, standing with many fragments on the ground. Peyssomel, in a drawing of 1750, shows six columns and part of the cella. The columns are buried to nearly one-half their height, but are at least 58½ ft. high and 6½ ft. in diameter. The temple was built of a coarse white marble, and was Ionic, octastyle, dipteral, with three ranges of columns on the east front, and two ranges, probably of seventeen columns, on each flank. The ground plan was 261 ft. by 144 ft.

THEATRE, of Roman date. The cavea, which is slightly greater than a semicircle, is excavated from the north slope of the acropolis hill. There is one precinction, or horizontal dividing-passage, and a gallery bordering the top of the cavea. There seems to be no vestige of a stage structure, and the theatre is curiously combined with the stadium. It is not in a good state of preservation. The exterior diameter is about 396 ft., that of the orchestra 162 ft.

The TOMB OF ALYATTES, near by, is a circular mound 1,180 ft. in diameter above its inwardly inclined basement of heavy masonry. The upper portion of the mound is formed of alternate layers of clay, loam, and rubble concrete, above which is a platform of bricks paved with masonry. On the summit stood five inscribed memorial steles. The height of the mound is 142 ft. Within the tumulus the funeral chamber has been found; it is built of large stones, and is 11 ft. by 8 ft. in plan, and 7 ft. high, with a flat roof.

SEBASTE (Samaria), Palestine.

The CHURCH OF ST. JOHN, now half ruined and converted into a mosque, stands, according to tradition, over the tomb of John the Baptist, and was one of the largest in Palestine. It is about 75 ft.

by 150 ft., and consisted of a nave and aisles of four bays, a transept, and a choir of one bay beyond, with aisles and three eastern apses. The apses are Byzantine in form, round within and polygonal without. The aisle windows are round-arched, and some details of capitals and bases Romanesque in character ; in other respects the style is the French of the latter half of the XII century. The vaulting is groined and ribbed, the arches pointed, the piers clustered, the bays of the nave short, and of the aisles square, as in the western Gothic churches. The walls, the south aisle, south transept, and apse stand entire ; the rest has been pulled down and serves for the open court which characterizes most mosques. In the middle a modern dome covers the reputed tomb of John the Baptist, which is in a crypt or cave beneath the pavement. The tradition that the saint was buried here is very old, and has the authority of St. Jerome. A basilica over the spot is mentioned in the VI cent., but not after the invasion of Chosroes. The present structure must date from before 1187. Sebaste was a see in the early Christian ages. The bishopric was revived by the crusaders, and again later, in name at least, by the Greek church.

On a terrace on the south side of a hill is a row of columns, which originally surrounded the hill and was about 3,000 ft. long, with which Herod the Great adorned the town. The terrace is about 50 ft. wide. The surviving columns, which have lost their capitals, attain a height of 16 ft. ; their diameter is about 6 ft. Some of the shafts are monolithic. On another terrace stand some twelve columns, without capitals, so arranged as to indicate a peristyle ; they probably belong to the temple dedicated by Herod to Augustus. There are also remains of a great stoa or portico, of a forum, and of a triumphal gateway, ornamented and fortified with round towers.

SEBENICO, Dalmatia.

The CATHEDRAL (S. Giacomo), dating from the XV cent., was begun in the Gothic style and finished in the Renaissance. It is built wholly of stone, neither brick nor timber being used in its construction. The plan is cruciform, with nave and aisles of six bays, a transept extending only to the aisle walls, and with an octagonal lantern and dome over the crossing, and a single bay to the east of the transept ending with three polygonal apses. The nave arches are pointed, the columns round monoliths with Attic bases and foliage capitals of Venetian type. The two western piers of the central dome, belonging to the Gothic part of the church, are quatrefoil in section with capitals of the richest Venetian foliage. The aisle bays are square, and have ribbed four-part vaults. Above the nave arches runs a rich Gothic string-course, over which is a triforium of flat-topped openings divided by fluted pilasters, and a clerestory with one arched window to each bay. The roofs of nave and transept are cross-ribbed barrel-vaults, and over the triforium gallery are quadrant or half-barrel vaults. These vaults, which show as the exterior roofs behind curved gables, form the distinguishing feature of the church. The choir stalls are of stone, and behind them the transept is floored over to form galleries, in front of which is a marble balustrade of twisted columns and round arches, carried partly round the two piers at the choir entrance to form pulpits. Outside, the Gothic work extends as high as the cornice of the aisles. The walls have square buttresses and two-light traceried windows. At the west end and in the north side are two fine doorways, the northern one called the Lion Door from two flanking lions guarding it, from whose backs rise octagonal shafts bearing statues of Adam and Eve under canopies. The west door is similar in style but richer. To the changes of 1441

are due the choir, the eastern end and apses, and the central tower, which is square to the height of the semicircular nave roof, and there changes to an octagonal lantern covered by an octagonal cupola with crowning statue. The lantern has two large windows in each face and is very light in construction, being tied with iron like the nave vaults. The cupola and the vault have been taken down in the present century and rebuilt. In the southern apse is a fine baptistery of mixed Gothic and Renaissance design. Beside it is the sacristy, a large chamber raised on a stone vault springing from the wall of the bishop's palace on one side, and from five columns on the other, and forming an open loggia with an entrance into the baptistery. The cathedral was begun in 1430 under Antonio di Pietro Paolo; in 1441 he was replaced by Giorgio Orsini, who died in 1475. The church was finally consecrated in 1555.



Fig. 208.—Segesta, Temple.

SEGESTA (anc. Egesta), Sicily.

GREEK TEMPLE, about five miles from Calatafimi, on the edge of a rocky gorge west of the ancient city. It is one of the best preserved of Greek temples, though it was never finished; all the thirty-six columns of its peristyle are standing, and all but one are perfect. It is conjectured that the work was interrupted by the capture of the city by the Carthaginians in 409 B.C. It has been sought to identify it with the temple of Artemis (Diana), from which the statue was taken to Carthage; but this is probably untenable, as when the work was stopped the temple can hardly have reached a sufficiently advanced stage to receive its cult statue, and but scanty traces remain of the cella. It is Doric, hexastyle, with fourteen columns on the flanks on a stylobate of four steps; in plan it measures on the lowest step 204 ft. by 88 ft. The details and the plan are excellent and of the best time, and unfinished as it is, the effect is most impressive. The material is the local limestone, which under the influence of time has assumed a golden-brown color. The columns, formed of an unusually large number (from ten to thirteen) of drums, were still unchannelled when the work was stopped. The capitals are wide-spreading with three strongly marked annulets, and a scotia below. Their diameter at the base is 6 ft. 2 in., at the neck, 5 ft. 2 in.; their height is 30 ft. 2 in., the intercolumniation is 14 ft. 2 in. The entablature and pediments remain almost perfect; the face of the architrave is inclined slightly forward, that of the frieze and pediments slightly backward. (*See Fig. 208.*)

THEATRE, on the north slope of Monte Barbaro, within the bounds of the ancient city. It is probably of the v cent. B.C., but more or less remodelled in Roman times. The plan is greater than a semicircle, the ends of the cavea being extended about 10 ft.; the external diameter

if 209 ft., that of the orchestra 54 ft., the length of the stage 90½ ft. The exterior wall is not an arc of a circle, but irregularly polygonal, with about twenty faces. The cavea is in great part excavated from the rock ; the seats are of masonry, divided by a precinction, or horizontal passage, into two tiers. The lower tier of twenty rows of seats is well preserved, and is divided by flights of steps into seven cunei. The highest row of seats, next below the precinction, is provided with backs. The upper tier consisted probably of eight rows of seats. The foundations of the stage-structure remain ; the supporting walls of the ends of the cavea are in good condition.

SEGNI (anc. Signia), Latium, Italy.

The WALLS are one of the most remarkable examples of Cyclopean work in Italy. The entire circuit, with its five gates, can be followed. The masonry is in large, roughly squared blocks of limestone. One of the gates, now called the Porta Saracinesca, is of especial interest from its size and solidity. Its sides converge toward the top, and the huge lintel-stones are 12 ft. long. On the southeast side of the town is a second gate, almost precisely similar. Within the walls there is a temple of Roman date, now converted into the church of San Pietro ; its walls are in good ashlar of tufa.

SELEUCIA PIERIA (Suweidiyeh), Syria.

TOMBS OF THE SELEUCIDÆ, so-called, situated in a hillside near an ancient bridge which crosses the rock-cut water-channel. A vestibule, 26 ft. long and 8 ft. wide, with beautiful engaged columns on each side and a vaulted rock-cut ceiling, leads to a chamber richly ornamented with friezes, volutes, etc. From this chamber passages diverge to a number of burial-chambers with loculi and niches. On the plateau forming the upper town are plentiful remains of temples and other buildings, including a number of columns still standing, and portions of the fortifications of the acropolis.

There are considerable remains of the ancient WALLS, which were about five miles in circuit, with several of the gates, and of the walled and fortified port, of oval shape, about 1,980 ft. by 1,350 ft., with two well-built moles at the entrance, which is now choked. A deep rock-cut channel about 3,600 ft. long, is also noteworthy ; for a length of 420 ft., and again for a stretch of 135 ft., it is a tunnel 21 ft. wide and high, with a channel about 4 ft. wide in the middle for the brook, to divert which from the city the cutting was made.

SELINUS (Selinonte), Sicily.

This ancient Greek city was founded on the S. W. coast of Sicily, in the second half of the VII cent. B.C., by a colony from Megara Hyblæa, on the eastern coast. It rapidly rose to great prosperity, but was taken and destroyed by the Carthaginians in 409 B.C. There are on the site remains of seven important Doric temples, and several metopes from an eighth temple have lately been discovered, constituting the most considerable group of ruined Greek temples in Europe. The temples appear to have been overthrown by earthquakes, and in the case of several of them nearly all their architectural members are present. Four of them stood on the Acropolis, three on a hill nearly a mile to the eastward outside of the city-wall. They were all built of a coarse limestone from the quarries at Campobello, eight miles to the N. W., and coated with a fine, hard, white stucco.

TEMPLE A (so-called), the farthest south on the Acropolis, a Doric structure of the middle of the V cent. B.C., is moderate in size but excellent in style. The stereobate and portions of walls and of a number of columns remain *in situ*. It was hexastyle, peripteral, with fourteen columns on the flanks, on a stylobate of

four steps, with a more numerous flight of steps projecting from the middle of the front. The cella had a deep pronaos and opisthodomos, each with two columns *in antis*, and an adytum at the back. The stylobate measures 51¾ ft. by 127½ ft., the cella (exterior) 28⅓ ft. by 92¾ ft.

Temple B, on the Acropolis, the so-called Temple of Empedocles, a small Doric tetrastyle prostyle structure, which has been erroneously restored as having Doric frieze and Ionic columns. The remains are considerable, with important traces of polychrome decoration. A number of members of the entablature, with their colors preserved, are in the museum at Palermo.

Temple C, on the Acropolis, identified with probability as a temple of Apollo, is the second oldest of Selinuntine temples, and one of the most archaic examples of Doric architecture. It evidently dates back almost to the foundation of the city in 628 B.C. A number of columns still stand on the stereobate, together with a large portion of the cella walls. It is peripteral, hexastyle, with seventeen columns on the flanks, on a stylobate which has four steps on three sides, and a flight of nine steps in front; an inner range of columns connects the third lateral columns from the front. The cella is long and narrow, and the distance from its walls to the surrounding columns is unusually great. It has a closed vestibule, and at the back an adytum, but neither pronaos nor opisthodomos. The columns have only sixteen channels; those on the flanks are of less diameter than those on the fronts. The height of the heavy entablature is almost half that of the columns. The architrave is crowned by a moulding of abnormal form. From this temple came the important archaic metopes representing Hercules and the Kerkopes, Athena, Perseus, and Medusa, and a quadriga, now in the museum at Palermo. The chief dimensions are: stylobate 78¾ ft. by 209½ ft.; cella (exterior), 34½ ft. by 133⅓ ft.; columns, base-diameter 6 ft. 4 in., neck-diameter 4 ft. 11 in., height 28 ft. 3 in.; cella, 29 ft. by 131 ft. This temple offers an interesting example of the sheathing and ornamental crowning of the cornice with plates of richly colored terra-cotta, in part moulded in openwork or otherwise, and in part adorned with painted anthemia, braids, and other designs.

Temple D, standing about in the middle of the Acropolis, an archaic Doric structure dating back to the foundation of the city, in 628 B.C. In plan it is peripteral, hexastyle, with thirteen columns on the flanks, on a stylobate of fourteen steps. The cella is long and narrow, and is separated by a wide interval from the peristyle columns. Originally it was of the archaic type with a closed vestibule, but this was subsequently changed to a deep pronaos with two columns *in antis*. The columns of the peristyle have twenty channels, those of the pronaos sixteen. At the rear end of the cella is a large *sekos* or adytum which is surrounded on three sides by a stone bench. The antæ of the cella terminate in three-quarter columns in place of pilasters. It is believed that this temple was dedicated to Athena. The stylobate is 77¾ ft. by 174½ ft.; columns, base-diameter 5 ft. 6 in., neck-diameter 3 ft. 9 in., height 24 ft. 8 in.; cella, 27 ft. by 123½ ft. inside.

Temple E (R according to Hittorff), identified as the Heraeum, the farthest toward the south of the range of temples on the eastern hill. It is assigned to the second half of the V cent. B.C., and is in style very close to the perfect Doric, though preserving some archaic features. The ruins are the most picturesque among Selinuntine temples. It is peripteral, hexastyle, with fifteen columns on the flanks. The cella-structure has deep pronaos and opisthodomos, each with two

columns *in antis*, and from the rear of the interior of the cella opens a sekos chamber. The cella lies several steps higher than the pronaos, and the stylobate consists of four steps with a more numerous flight embracing three intercolumniations projecting from the middle of the front. The columns are coated with fine white stucco; they have twenty channels, and the curve of the echinus approaches the perfection of the best Athenian examples. Abundant remains exist of the rich polychrome decoration. To this temple belong the well-known metopes of Hercules and an Amazon, the mystic marriage of Zeus and Hera, Artemis and Actæon, Apollo and Daphne, Athena and the Giant, now in the museum at Palermo. They are from the friezes of the pronaos and opisthodomos. The chief dimensions are: stylobate, 83 ft. by 222½ ft.; columns, base-diameter 7 ft. 4 in., neck-diameter 5 ft. 10 in., height 33 ft. 5 in.; cella (interior), 37½ ft. by 135½ ft. The longest architrave-blocks measure 15 ft. 5 in., and the height of the entablature is contained two and one-quarter times in that of the columns.

TEMPLE F (by Hittorff designated S), the central one of the range on the eastern hill, with parts of twenty-four Doric columns still in place. The temple, though highly archaic in plan, is assigned to the VI cent. B.C.; it is long and narrow, with a cella proportionally still narrower. In plan it is peripteral, hexastyle, with fourteen columns on the flanks. The stylobate is of four steps, the third of which is much wider than the others. The cella has a closed vestibule and a *sekos* or adytum at the back. The columns of the peristyle have twenty channels, those of the inner range sixteen flutes, which are separated by tillets; the capitals are low and wide-spreading; the proportions of triglyphs and metopes, etc., and the two metopes found bearing reliefs of a Gigantomachy, seem more advanced. The columns retain in part their stucco coating, and there are remains of polychrome ornament. The chief dimensions are: stylobate, 80 ft. by 203 ft.; columns, base diameter 5 ft. 11½ in., neck-diameter 4 ft. 1 in., height 29 ft. 10 in.; cella (interior), 23⅓ ft. by 133⅓ ft. The height of the columns is two and one-quarter times that of the entablature.

TEMPLE G, identified as dedicated to Apollo, by others called Temple of Zeus, the farthest north of the range on the eastern hill, of very large size and retaining the greater part of its lower members *in situ* despite the chaotic appearance of the ruin. Its date is placed in part in the VI cent. B.C., in part after the middle of the V, and it was not entirely finished when the Carthaginians took the city in 409 B.C., as is shown by the fact that most of the Doric columns remain unchannelled. In plan it is peripteral, octastyle, on a stylobate of three steps, with seventeen columns on the flanks and the space of two intercolumniations between the peristyle and the cella walls and porticoes (pseudo-dipteral). The cella exhibits a deep pronaos preceded by a tetrastyle portico having on each side a column intervening between angle-column and anta, and an opisthodomos of two columns *in antis*. In the interior the cella had a free standing edicule at the back preceded by a double range of ten columns, each range consisting of two tiers. The newer capitals of the peristyle are somewhat heavy, but vigorous in outline; the proportions of the entablature are excellent. The chief dimensions are: stylobate, 166 ft. by 360 ft.: columns, base-diameter 11 ft. 2 in., neck-diameter of older columns 6 ft. 3 in., of newer columns 8 ft. 1 in., height 53 ft. 4 in.; cella (interior), 59 ft. by 229 ft.

SERJILLA, Syria.

ROMAN THERMÆ, in excellent preservation. There remain the entrance, the waiting-room, the heating-chamber, the

great hall, a number of small chambers or *sudatoria* covered in with monolithic vaults, and a tribune for musicians, elevated on columns. Stone exterior conduits lead from a large cistern to the window of every sudatorium, whence to produce steam the water was allowed to trickle down on pebbles heated red-hot.

SERMONETA, Italy.

The CASTLE of the dukes of Sermoneta overhangs and commands the town from the summit of the high hill upon which it is built. It is an immense structure built during the XIII, XIV and XV centuries. In the centre of a large inner court is the castle keep, a high tower with battlements, which is the earliest remaining portion of the castle, and dates apparently from the XIII century. The upper story has two halls 20 ft. by 32 ft. with groined vaults; one of these appears to have been the chapel and was filled with frescoes of the XIV century. The lower story has two larger halls, one 32 ft. by 26 ft., and the other 40 ft. by 32 ft. The latter is a fine apartment covered with cross-vaults 24 ft. high, divided by a low round transverse arch. The stonework is careful throughout the castle, and the groined vault is largely used. There are long and intricate passages leading down, it is said, as far as the plain below. [A. L. F., Jr.]

The CATHEDRAL was originally a five-aisled basilica, probably built under Cistercian influence from the neighboring Valvisciolo (*q. v.*) at the close of the XII century. The apse is square, flanked on each side by a square chapel; there is no transept and the nave has five bays. All the aisle bays have groined cross-vaults, and are almost square in plan. There are three stages in the construction: the tower at the façade is pure Romanesque; the porch with its wide pointed arch is in simple Gothic style; the body of the church is transitional. The outer aisles have been turned into chapels, the apse has been modernized, and the round arches of the central nave have been lowered, so that they describe only about a quarter of a circle. [A. L. F., Jr.]

SESSA (anc. Suessa Aurunca), Italy.

The CATHEDRAL, dedicated to Sta. Annunziata and S. Pietro, is an ancient basilica of various dates, the oldest portions perhaps referable to the VIII cent., but after a substantial rebuilding consecrated anew in 1113. The nave and aisles are separated by seven stilted round arches on each side, springing from antique columns with stilt blocks. The transept has three apses on its eastern wall, and its floor is raised seven steps above that of the nave. Beneath it is a crypt divided into five aisles of three bays each, with groined vaults supported on columns with Corinthian capitals, over which are thin moulded stilt-blocks. The façade has a fine open vaulted porch with three arches, the middle one pointed, springing from grouped columns. Over the porch appears only the front of the nave, with angle pilasters running up to a horizontal arched corbel-table and a low gable above. It is pierced with a single plain round-arched window with a small gable. This nave front is flanked by two singular tower-like modern bell-cotes which cover the ends of the aisles. They are great masses of wall, gabled and divided by string-courses, pierced each by five arches in three stories, in which hang the bells of the church. Three doors enter the nave and aisles. The church has a remarkable marble pulpit dating from 1250, a mass of mosaic and sculptured ornament, supported by columns resting on lions and carrying round arches. A fine Paschal candlestick has similar decoration.

The remains of antiquity include fragments of a temple, incorporated in the church of the Vescovado, a cryptoporticus in the monastery of San Giovanni, built of stones of remarkable size, an amphitheatre, many foundations of reticulated masonry, and a Roman bridge of

twenty-one arches, called the Ponte di Ronaco (Aurunca).

SEZZE, Italy.

The CATHEDRAL, after being destroyed in the XII cent., was rebuilt shortly before 1200 under the combined Cistercian influence of Fossanova (*q. v.*) and Valvisciolo (*q.v.*), in the style of transitional Gothic. The plan is basilical, without transept and with a single semicircular apse. The interior consists of eight bays: the length of the church 103 ft., its width 60 ft., width of nave, nearly 24 ft., of aisles, 11 ft. Only a few changes have been made since the time of the original construction, the principal alterations being made in the XVIII cent., when the apse and façade were reversed and the vaults of the nave were reconstructed. There remains but one original nave vault next to the old apse; it is a low-ribbed groin vault with plain square moulding as at Sta. Maria di Castello at Corneto (*q. v.*) and some Lombard churches. The vaults of the side-aisles are groined, and separated by pointed transverse arches. The plain arches of the nave are pointed as at Valvisciolo, but not as heavy, being in their proportions similar to Fossanova and Casamari; they are supported on grouped piers. There is a curious irregularity in the use of the engaged members which supported the ribs of the ancient main vaults; some are colonnettes, some pilasters, some descend to the floor, some only part way down the piers, as in Cistercian churches. The most advanced feature of the building are the capitals of these engaged shafts, which are of graceful foliated Gothic type, quite rich in treatment and of good proportions, and suggest a French hand, while all the rest of the structure is an Italian adaptation of French models. The original windows were closed in the XVIII cent., when the vaults were remodelled. The construction is entirely of stone. At the time of the so-called restoration in the XVIII cent., a door was opened in the apse which became the modern façade, and a modern choir was placed at the ancient façade. [A. L. F., Jr.]

SHAKKA, Hauran, Syria.

The small BASILICA is one important step in that development of the forms of Christian architecture which makes the buildings of central Syria memorable. It dates from the I or II cent., and is nearly a square of 65 ft. It fronts east, and is entered by three doors of classic detail, between which are two curious niches flanked by pairs of colonnettes supporting pediments over arched entablatures. It is entirely of stone, like the other buildings of the Hauran (*q. v.*). The interior is crossed by six arcaded screens which bore the flat roof. The central arches, 26 ft. wide, and nearly as high, make an open nave; the narrower side arches give aisles, leaving square piers between. These arched screens are the structure of the building, supporting the roof and staying the walls, which are only fillings between them. The aisle arches are in two stories of half height, with a floor between, making an upper gallery, and a row of longitudinal arches between the piers bears the stone parapet of this gallery. There is no clerestory, nor aisle windows, the building being lighted by the openings in the front and rear walls. Its structure singularly anticipates many charteristics of European mediæval architecture.

SHOHBA (anc. Philippopolis), Hauran, Syria.

BATHS, containing a number of vaulted chambers, with interesting sculpture. There are lofty arched entrances. The walls were encrusted with marble, the metallic clamps for holding which are still in place. The earthen pipes for the distribution of water are also in place. The water was brought by an aqueduct, five arches of which are still standing.

THEATRE, built in the slope of a hill.

The exterior walls are still in good preservation. Ten tiers of seats are visible. There is a precinction or horizontal gallery, and three entrances from below and four from above. The stage wall is ornamented with niches. The diameter of the orchestra is about 65 ft., the length of the stage structure about 136 ft., its depth about 29 ft. Between the theatre and the street there is a small square temple of good style.

The Roman WALLS are still standing in part, with several gates consisting of two arches, side by side, separated by a pier. Some of the streets are 25 ft. wide, and well paved with long slabs. At the intersection of the two chief streets, which appear to have been colonnaded, are ruins of a tetrapylon, as at Gerasa. There are several temples; five columns of the portico of one of them are still erect.

SIAH, near Kanawat, Hauran, Syria.

SANCTUARY OF BAAL SAMIN (a sun-god), shown by inscriptions to date from the first cent. of our era. There are three enclosures succeeding one another from east to west. The entrance to the first of these is by a triple gateway resembling somewhat in elevation an Egyptian pylon, but with classical details. The court is about 130 ft. by 52 ft., and is paved with slabs of lava. A second gateway of similar plan leads into the second enclosure, which has the same width as the first, and is about 179 ft. long. Within the third enclosure, which occupies the extremity of the terrace, is a spacious peristyle on a level several steps higher than that of the preceding court; and behind this rises the temple proper, the plan of which is still unknown, owing to the choking of the interior with débris. The front of the temple was of two stories; the lower one only is standing, and consists of a recessed porch of two columns *in antis* between square projecting wings. The plan of this sanctuary is to be compared with that of the Temple at Jerusalem. The capitals of the peristyle are of a rather heavy Corinthian, with plain, broad leaves in place of the acanthus, and somewhat rude figures of children in that of the central anthemion. The bell-shaped bases are formed of a double rank of inverted acanthus-leaves. The sculptured ornament of the sanctuary, which is at once vigorously and delicately executed, includes vine-branches and grapes, foliage, a lion, an eagle, gazelles, a saddled horse, etc. A sacrificial altar has been found flanked by two bucks in high relief, and another bearing a bull's head. Pedestals for statues, with their inscriptions, still stand in the portico of the innermost court. One of them bears the name of Herod the Great.

SICYON, Greece.

THEATRE, on the N. E. slope of the Acropolis, explored by the American School at Athens in 1886–87. The cavea was divided into fifteen radial sections by fourteen stairways; there were about forty tiers of seats, the upper tiers being cut from the natural rock. The lowest tier comprised seats of honor in Poros stone, formed, as at Epidaurus, like benches with backs, and moulded arms at the ends. The length of the benches is about 8 ft. There is a *diazoma* or horizontal passage at a comparatively short distance above the orchestra, which makes it probable that a second diazoma, as yet undiscovered, existed above. The diazoma has a coping about 3 ft. high at the back, and two entrances from without the theatre, one on either side, by means of vaulted passages, which are interesting for their Greek vaults of good rectangular masonry in large blocks. The orchestra, of which the diameter is about 60 ft., had a surface of rammed earth, or earth and cinders; it was skirted beneath the cavea by a drain about 4 ft. wide, the inner masonry of which formed a coping to the orchestra. The *parodoi*, or passages into the orchestra between stage and cavea, were closed by double doors, the

foundations of which are in place. The stage-structure includes a number of parallel walls with projecting chambers at the sides. It represents a Roman modification of the original structure. The length of the wall of the proscenium is 75 ft. 9 in.; it was pierced with three doors unsymmetrically placed. An interesting feature is the underground passage or drain, beginning in a shallow and narrow conduit at the middle of the skirting drain of the orchestra, and carried in a straight line through the centre of the orchestra and out under the stage buildings, whence it is continued by a smaller tunnel in the rock. In the middle of the orchestra it widens and deepens to form a tank, beyond which its width is 27 in. and its depth about 6 ft. Between the Roman and the Greek proscenia a flight of five steps leads down into the passage, the bottom step being raised 1½ ft. above the floor to allow water to pass under. The passage was covered, except over the stairway, with slabs of conglomerate, lined with masonry, and in part floored with stone slabs. It undoubtedly served both as a drain and as a passage for actors from behind the proscenium to the middle of the orchestra, and it is to be compared with the similar feature discovered by the American School in the theatre at Eretria. At the back of the stage-structure was a Roman portico forming a monumental façade toward the exterior. At the south end of this portico is a large square structure, probably a cistern, and at the north end a building of semicircular plan preceded by a portico of four columns, which is identified as an ornamental fountain. Other ancient structures recorded in history undoubtedly await exploration at Sicyon.

SIDE (Eski Adalia), Asia Minor.

Agora. 180 ft. in diameter, and surrounded by a double peristyle of columns. One side is occupied by the ruins of a temple, and a portico.

Monumental Fountain. It is a massive wall about 45 ft. high, with a range of small arcades and niches above, and three large semicircular vaulted niches below, in each of which three streams of water issued from conduits and fell into basins. The lower half of the monument was further decorated by a colonnade of thirty-two unfluted Corinthian columns, standing on a basement and with a complete entablature, the convex frieze being carved with foliage. At each end of the monument an exedra projected at right angles.

Theatre, in excellent preservation. It is situated on a gentle declivity, the lower half only is excavated, the upper half is of solid masonry. In plan it is about one-ninth greater than a semicircle; the exterior diameter is 409 ft., that of the orchestra 125 ft., the vertical height 79 ft. The cavea has forty-nine tiers of seats, in two divisions—twenty-six in the lower, and twenty-three in the upper. The precinction or gallery and its corridor are on a level with the surface of the ground at the back, and communicate with it by twenty-three vaulted passages in excellent and massive masonry of large blocks. Most of the seats are still in place, and the radial stairways are still passable. The seats are of white marble, admirably cut. The estimated capacity of the theatre is fifteen thousand.

A considerable part of the ancient city walls survives, especially on the land side, where the masonry is excellent. There is one gate in the wall on this side, and three toward the sea.

SIENA, Italy.

The Cathedral is one of the most conspicuous and interesting examples of the Italian Gothic. In size it can scarcely be ranked with churches of the first class, having a length of about 275 ft. internally, and a breadth of about 75 ft. or 170 ft. across the transept. The original church appears to have existed as early as the

middle of the x century. It was reconsecrated, in 1179, after enlargement. A still more thorough rebuilding took place less than a century later, the façade having been begun, in 1245, under Niccolo riched arch mouldings, and covered by high crocketed gables separated by pinnacles bearing niches with statues, and surmounted each by a standing figure. The porch is flanked by strong angle-piers



Fig. 209.—Siena, Cathedral.

Pisano. The design contemplated a church of much greater size than the present, which is the transept of the intended church. This greater design was abandoned after the exterior walls had been carried up to the height of the roof. Parts of it and of the nave arcade are still standing, and are of great beauty. The exterior is entirely built of white marble, with occasional thin courses of dark gray or black marble. The façade is of exceeding richness, and shows, especially in its lower portions, more of the feeling of northern Gothic than is often found south of the Alps. This portion consists of a great triple-arched porch stretching across nearly the whole front, the three arches of equal breadth and height, very slightly pointed (but the central one round), deeply splayed, and with columnar jambs, enwhich are the bases of two small towers that flank the façade, and terminate above the roof in low spires and pinnacles. The façade above the porch is divided into three compartments answering in breadth to the nave and aisles. Each division is covered by a high gable ; the central division, carried to a much greater height than the sides and flanked by bold square buttresses ending in pinnacles, is a great square panel enclosing a round window beset with small niches, each containing a bust. A rich and delicate arcaded gallery binds it to the tower on each side. The wall surfaces are everywhere enriched with sculpture. The flanks of the church are of much simpler design, but perfectly consistent with the front. Both aisle and clerestory walls are divided by buttresses into bays, which below contain broad

pointed single windows of admirable design, with slender angle-shafts, and high crocketed traceried gables flanked by pinnacles. The clerestory has also single pointed windows, divided into three lights with tracery in the arch-head. The buttresses both of aisles and clerestory are crowned by standing statues above the roof-line. The drum of the central dome is surrounded by an arcaded gallery ranging with the clerestory wall just above the aisle-roof, and is crowned by a circular lantern with round-arched cusped windows and coupled columns. The campanile, rebuilt in the XIV cent. by Agostino and Angelo da Siena, is a most conspicuous feature of the church. It stands at the junction of the south aisle and transept, its base being included within the church. It is a slender square tower in seven stages, of which six are marked by a regularly increasing series of openings in each face, from one to six. The wall is striped like the rest of the church with alternate courses of white and black marble, the angles are marked by pilasters of very slight projection, terminating in plain square pinnacles within which rises a low octagonal stone spire. The east end of the church, though unfinished, is of great interest. It has an additional lower story, occasioned by the rapid slope of the hill on which the cathedral stands, and which gives entrance to the baptistery beneath, now the church of S. Giovanni. Here are three round-arched doorways with splayed columnar jambs and enriched arch mouldings, the central arch covered by a crocketed gable with tracery. The façade is divided into three bays by square buttresses, of which the lower portion is decorated with lozenge-shaped panels containing sculptured heads, and the upper portions by rich and delicate tracery of gabled arches on slender shafts. Between the lower and upper stage the wall was enriched by a beautiful blind arcade of narrow pointed, cusped, and gabled arches on slender columns, of which the shafts have disappeared. The upper stage has in each bay a fine two-light window, narrow and high, with deeply splayed columnar jambs and arch mouldings, and a gable flanked with pinnacles. Above these windows runs an arched corbel-table, at the height of the aisle-walls. The upper parts are wanting. The interior has a nave of five bays, separated from the aisles by square piers, with a half column on each face with large composite capitals supporting round arches, of which the soffits are richly panelled. Transverse arches, also with broad panelled soffits, divide the nave and aisles into vaulted bays. The spandrels of the nave arches are decorated with roundels enclosing heads in high relief. Above the arcade runs a bracketed frieze of square panels enclosing busts in terra-cotta of the popes. The clerestory is high, and is pierced with the windows already described. There is no triforium. Walls and piers are everywhere striped with alternate courses of black and white marble. The crossing is covered by a dome which expands beyond the width of the nave, and beginning with a hexagonal wall resting on six great central piers and arches, is changed to a twelve-sided plan

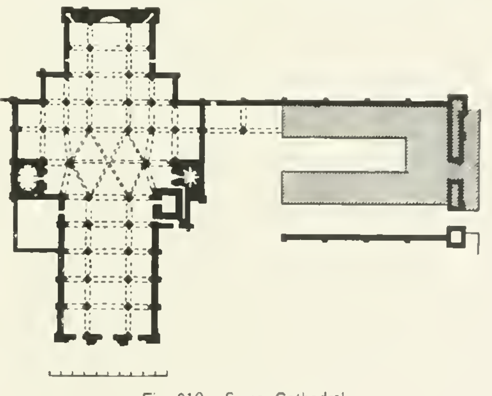


Fig. 210.—Siena, Cathedral.
Scale of 100 feet.

by large and conspicuous squinches enclosing statues. This portion of the wall

is lined with a continuous colonnade filled with standing figures of the prophets, with a frieze above of heads of cherubs in high relief. Above this the dome itself is oval in plan, its soffit deeply panelled and decorated. The choir, prolonged in 1317, is in four bays, like those of the nave. Under its eastern half is the ancient baptistery above mentioned, now the church of S. Giovanni, of the full breadth of the cathedral but only two bays deep, divided by clustered piers supporting high pointed arches and covered by four-part vaulting. The baptistery contains a font in gilt bronze, with reliefs by Ghiberti and Donatello. The pavement of the cathedral is remarkable, consisting of an inlay of dark gray marble on a white ground representing a great variety of subjects, biblical, mythological, allegorical and symbolic, of which the best portions are attributed to Beccafumi, and presumed to date from the beginning of the XVI century. The pulpit, one of the finest in Italy, is by Niccolo Pisano and his sons, Giovanni and Arnolfo. It is of marble, octagonal in plan, supported by eight columns at the angles and one in the centre, raised on a basement, the alternate columns resting on the backs of lions, and the central column on a pedestal surrounded by figures and groups in high relief. The capitals are highly developed and support round cusped arches, between which the angles are charged with admirable sculpture. Its wall above the arches is covered with reliefs of scriptural subjects. The pulpit is approached by a winding staircase decorated with beautiful arabesques in relief. It bears the date 1268. (*See Figs. 209, 210.*)

Church of the Osservanza, a XV cent. Renaissance church, belonging to the ancient monastery of the Padri Minori Osservanti. The plan is peculiar: a nave of two great square bays opens through a triumphal arch into a wider square choir, behind which is a deep apsidal chapel, each covered by a flat dome. A great order of Ionic pilasters is carried about the whole, supporting the transverse arches, and, with detached pilasters, the triumphal arch. From each bay of the nave a pair of chapels opens on each side through sub-arches flanked by pilasters. The bays of the nave are covered by low domes, the choir by a high dome on an entablature above the pendentives, which are decorated with medallions of glazed terra-cotta with busts in relief, by Francesco di Giorgio. In each wall-arch is a small round clerestory window, and similar windows light the chapels. On the front is a porch in two stories—the first with three open arches with a horizontal entablature above, the second with an order of engaged pilasters with a central gable. The exterior is of brick very simply treated — the central dome showing as a plain cylindrical lantern without openings, and with a low conical roof. A tall, slender, square bell-tower stands at the S. E. angle of the tribune.

Church of the Servi, a Renaissance church attached to the monastery of the Servi, and known also as St. Mary of the Conception. The monastery dates from the middle ages, but the present church was rebuilt during the last years of the XV cent. or the early years of the XVI, and has been attributed to Peruzzi. Although the design is in the style of the Renaissance, its plan and system of construction suggest a Gothic beginning. The nave and aisles, about 125 ft. long, are separated by arcades of round arches springing from Ionic columns, above which transverse arches divide them into five bays each, covered by groined vaulting which in the aisles is pointed. Heavy buttresses span the aisles and separate the chapels that flank each bay. The transept is in five bays, the crossing square, the others oblong, but all groined at the height of the nave vaulting. The transept terminates at each end in a deep

polygonal apse, and on its eastern wall, flanking the square groined choir with its polygonal apse, are two smaller apsidal chapels on each side, of similar form. A square bell-tower stands at the south angle of the plain front.

The Fonte Branda, made memorable by Dante's mention of it, is the most striking example of a class of fountains peculiar to Siena. The rectangular basin, some 55 ft. long, is covered by a brick structure 30 ft. high, with a solid wall on three sides, and on the front three high pointed blind arches of brick springing from square piers, and enclosing lower open arches of the same form. The wall is capped with a strong arched corbel-table, and crowned with square battlements. The interior is divided by transverse arches into three square groined bays. The fountain dates from the end of the XII century.

Another fountain of the same kind is the Fonte Nuova, built half a century later, in 1259, with brick arches, and cornice enriched with decoration in terra-cotta.

The Fonte Gaja, opposite the Palazzo Pubblico, on the old Piazza del Campo, now called the Piazza Vittorio Emanuele, is one of the most remarkable and beautiful fountains in Italy, consisting of a low rectangular basin about 35 ft. long, enclosed on three sides by a wall or screen 6 ft. high, buttressed at the ends by sculptured pedestals. It is decorated with a series of round-arched shallow niches with statues, raised on a pedestal-course and separated by broad pilasters with bas-reliefs in panels. The fountain was built in 1343. The original bas-reliefs of the panels, executed by Jacopo della Quercia in 1412–19, have been lately removed to the museum near the Cathedral, called the Opera del Duomo, and the fountain practically renewed by a modern sculptor, Sarrocchi, in 1869.

Palazzo Buonsignore, one of the finest and most characteristic of the palaces of Siena, dating from the XIV century. The façade, of brick and terra-cotta, is in four stories, of which the first has high pointed brick arches, alternately large and small, with low segmental arches springing from the same thin impost moulding. The second and third stories are alike, and consist of ranges of triple windows, the openings pointed and cusped and separated by slender shafts, each window covered by a high pointed bearing-arch of brick. Under each story runs an arcaded string-course. A larger and richer arched corbel-table above supports a frieze under the projecting wooden eaves, pierced by small square windows, alternating with square quatrefoiled panels enclosing heads in relief. The plan of the palace is a square of about 76 ft. and includes on the ground-floor an entrance vestibule stretching nearly across the front, leading to a court with arcades on three sides. The principal flooring-beams in the various stories rest on wooden brackets carved with great richness.

Palazzo Grotanelli. This palace, which dates from the XIV cent., has a façade of the Sienese type something over 100 ft. in length, in two stories of pointed arches: the first story of stone, with plain segmental sub-arches, the second of brick, with coupled lights and mullion shafts. The front is finished with an arched corbel-table with square battlements above.

Palazzo Marescotti, a fine XIII cent. palace with a façade following the broken street-line, about 160 ft. long, in three high stories, the first two of stone, the third of brick. The first story has a line of tall narrow segmental arches, carried on square piers, and capped by pointed bearing-arches. The second and third stories have each a line of triple windows with pointed openings, divided by slender columns and enclosed by a pointed bearing-arch. The front is crowned by a simple cornice with square battlements. A

low square battlemented tower rises from its left angle.

Palazzo Piccolomini (now Del Governo), the most important of a group of Sienese palaces during the second half of the xv cent., and having all the characteristics of the great Florentine palaces of the same epoch. It was built for Pius II., about the year 1469, by Bernardo Rossellino, the architect of his buildings at Pienza. Its principal façade is about 135 ft. long and 95 ft. high, in three lofty stories of rustic stone masonry. The first story has a range of round arches with a central doorway, and over them is a mezzanine with small square windows. The second and third stories have each a range of nine broad two-light windows, round-arched, with sub-arches divided by a column. Vigorous string-courses with dentils run under the windows, and the front is crowned by a bold and well-developed cornicione with plain square windows in the frieze. The design above the first story is an almost exact copy of that of the Strozzi palace in Florence.

The Palazzo Pubblico, originally the Palazzo della Repubblica, one of the most notable examples of a remarkable class of mediæval buildings, was built in 1289–1309 by Agostino and Angelo da Siena. It has a façade of stone below and brick above, on the great square of the town, making a broken line about 200 ft. long, three stories in height, with the central portion carried up another story and finished with angle turrets as a low tower. The openings are all pointed arches, except those of the upper story of the central tower. In the first story they are plain, in the other two stories they are filled with triple sub-arches pointed and cusped, with mullion-shafts under solid tympana. Above the second story of the wings runs an arched corbel-table, as if they had originally stopped there; a similar one crowns the central tower. The windows rest on light string-courses, and the walls are crowned with square brick battlements. At the angle of



Fig. 211.—Siena, Pal. Pubblico.

the façade rises perhaps the most striking and graceful of Italian bell-towers, a plain square slender brick shaft capped by a battlemented cornice over arched corbels of extraordinary depth and projection, above which is a square stone belfry with a single round-arched opening in each face and an arched corbel-table with square battlements. This tower, which is 285 ft. high, dates from 1325–1345. At its base projects an open loggia, with a single great round arch on each face springing from square piers, with niches containing statues. It was built as a chapel in 1376, an offering vowed for the cessation of the plague in 1348, which is said to have carried off eighty thousand of the population of the town. The buildings enclose an interior court, surrounded by a noble vaulted arcade of simple round arches on octagonal piers with foliated capitals, supporting two stories of wall, of which the first has triple windows like those of the façade, and the upper simple round-headed openings. The palace contains several great halls decorated with remarkable frescoes by the ancient Sienese masters. (*See Fig. 211.*)

PALAZZO SPANOCCHI, a XV cent. Renaissance palace much like the Piccolomini palace, but smaller. It has a façade of rustic stone work in three stories, about 75 ft. wide and 80 ft. high. The first story has a range of five equal round arches; the two upper stories have each five windows with two round-headed lights divided by a column under a round arch. String-courses with dentils run under the windows, and the front is crowned with a strong projecting cornicione with brackets, between which are medallions with heads in relief. The palace was begun in 1472 from designs by Bernardo Rossellino, or, as some say, of Francesco di Giorgio.

PALAZZO TOLOMEI, a good example of the smaller palaces of Siena during the XIII century. It has a simple, vigorous façade of stone about 60 ft. broad and 112 ft. high, in four stories, of which the first, covering with its mezzanine a height of nearly 40 ft., has a central square doorway under a pointed arch, with a smaller doorway on each side and plain square mezzanine windows above. The three upper stories are alike, each having five large two-light pointed windows, with mullion-shafts and tracery resting on thin string-courses. The façade is finished with an arched corbel-table and square battlements.

SIPONTO, Italy.

The CATHEDRAL (Sta. Maria Maggiore), now abandoned, is a singular and interesting example of early XI cent. architecture altered in the XII and XVI centuries. Its plan is a square of about 60 ft., with small semicircular apses on the east and south. It contains an under church and an upper, the lower being the oldest portion of the building. This is about 44 ft. square, divided into twenty-five square groined bays by round arches springing from Corinthian columns, with semicircular apses opening from the middle bay on the east and south sides, and an entrance doorway on the north. The four columns nearest the angles were replaced, probably in the XII cent. rebuilding, by massive round piers, to bear the weight of the piers of the upper church supporting the central dome, which are connected by four great pointed arches over which is a low groined dome with a flat external roof and small lantern. The aisles on the four sides of this central square are covered by pointed barrel-vaults, and the square bays at the angles are groined. There are two semicircular apses over those below. The exterior is partly ruined. The façade has a square door in the middle, with round bearing-arch, between two columns on lions, and surmounted by a low gable now mostly gone. On each side of the doorway are two round blind arches on columns, much in the Pisan style, with

inlaid lozenges between the shafts. The easterly apse, arcaded, with flat pilasters decorated with mosaic, has on either side two blind arches like those of the front. The church is believed to have been begun in 1010, and finished in 1037, but was substantially rebuilt in the beginning of the following century, and consecrated anew by Pope Pascal II. in 1117. A second restoration took place in the XVI century.

SIRACUSA, Sicily. See *Syracuse*.

SKYTHOPOLIS. See *Beisan*.

SOANA (Sovana, anc. Suana), Etruria, Italy.

The NECROPOLIS abounds in Etruscan sculptured rock-façades of much interest, and presenting original features. One, called La Fontana, has over a shallow arch simulating a doorway a rudely shaped pediment which is carved with a female figure resembling the Greek Scylla, and other subjects. In a cliff called Poggio Prisca there is a long line of façades of the general character of those of Norchia and Castel d'Asso, with doors converging upward, horizontal mouldings, and heavy concave cornice over a torus, thus presenting a pseudo-Egyptian or Phœnician type. The Grotta Pola resembles the façade of a pedimented temple, with columns of Corinthian tendency, but showing human heads among the foliage of the capitals. These monuments are not considered to be very early in date.

SOLMONA, Italy.

The AQUEDUCT, built in 1256, according to the long inscription still remaining at the end of it, over the fountain, is one of the finest mediæval works of the kind. It is well built of large blocks of stone, and consists of a series of broad pointed arches, resting on square piers surmounted by a simply moulded plinth. Starting in the main square, it takes a bend, and rising as it proceeds, cuts through the city. [A. L. F., Jr.]

The Church of S. FRANCESCO was built in 1290 or 1294 by Charles II., of Anjou, and must have been one of the finest works erected by him, for Solmona was his favorite city. The remaining part of the façade, with its colossal round-arched portal, is the most impressive work in this city, which is full of Gothic and Renaissance buildings. The height of the doorway is about 30 ft. [A. L. F., Jr.]

SORA, Italy.

S. DOMENICO, an ancient basilica some two miles east of the town, consecrated in 1104 by Pope Pascal II., and considerably altered in 1680. Its plan is rectangular, with nave and aisles separated by five arches on each side, springing from sections of wall, with corresponding pilasters on the aisle-walls, but with no transverse arches nor vaulting. The transept is rectangular, with three eastern apses, and with a crypt under it divided into seven aisles of three bays each, the middle aisle broadest. The crypt vaulting is carried on sixteen marble columns, and there are here three apses as in the upper church.

SOVANA. See *Soana*.

SPALATO, miscalled Spalatro, Dalmatia.

The BAPTISTERY, or church of St. John the Baptist, is the small temple of Diocletian's palace, standing west of the peristyle, and is said to have been dedicated to Æsculapius. It is rectangular, on a lofty podium with vaulted crypt beneath, and had originally a tetrastyle Corinthian portico, now destroyed together with the front pediment. The interior, which has been perfectly preserved since its erection, is covered by a barrel-vault of stone sunk in square coffers. This vault is built of huge stones, of which three courses complete the semicircle, and forms the exterior roof of the temple between the two end pediments. The doorway, 15 ft. high, is formed of three pieces, the head being mitred to the jambs. It is bordered by sculptured scroll work in

which figures and animals are entwined, all roughly and hastily executed. The baptistery contains a cruciform marble font made up of various fragments, and sculptured with grotesque figures. A fine Roman sarcophagus which formerly stood on the platform before the temple has been removed to the museum.

Cathedral (Duomo). The temple in Diocletian's palace supposed to have been dedicated to Jupiter, but more probably the emperor's mausoleum, is now the duomo of Spalato. It stands in a small court east of the peristyle of the palace, from which a flight of steps leads up to it. It is octagonal with a surrounding Corinthian peristyle, and had formerly a projecting porch in front, now replaced by a campanile. A low, red-tiled pyramidal roof with XIII cent. Romanesque finial covers the building and conceals an interior dome. Beneath the church is a roughly vaulted crypt approached by a passage under the entrance steps, and lighted by openings in the pavement of the peristyle. The interior is a circular chamber 43 ft. in diameter, divided into eight bays by two orders of detached columns. The entrance occupies one bay, and the others contain large arched niches alternately square and semicircular. The columns of the lower order are of granite with Corinthian capitals; those of the upper one are alternate pairs of granite and porphyry. The columns are purely ornamental and support only returns of the two entablatures which surround the building. These are richly though rudely decorated, but in design depart widely from classic models. The upper columns are but seven diameters high and without bases. At the level of their Composite capitals a sculptured frieze surrounds the wall with figures of winged boys and animals. The dome is constructed for half its height of a series of brick relieving-arches curiously arranged like scales. Two elaborate Gothic canopied shrines occupy the niches on either side the high altar. The pulpit is a pure Romanesque work of the XIII cent., in fine limestone and variously colored marble. The body, elaborately carved, is hexagonal, decorated with coupled colonnettes, and stands on six octagonal columns united by round arches. There are some carved choir stalls of the XIII and XV cents., in a modern rectangular choir built to the east of the church and connected with it by a door cut through the wall opposite the entrance. The whole building has been recently restored, much to the injury of its antique character The entrance to the church is through the interesting campanile belonging to the XIV–XVI cents., which has replaced the original portico. This is of five stories, square in plan, surmounted by an octagonal lantern and low spire. Its foundation is unknown, but the first two stories are ascribed to Maria of Hungary (d. 1323). Both have exterior arcading constructed of antique columns and capitals, and enriched with sculpture of Byzantine and Venetian character. The next three stories, attributed to the XV cent., are rich in porphyry and verd-antique spoils from older buildings. Their grouped openings are round-arched with midwall shafts.

Palace of Diocletian, built by Diocletian, who was born in Salona, three miles N. E. of Spalato, and after his abdication (A.D. 305), spent here the last nine years of his life. It was a fortified palace, somewhat in the form of a prætorian camp, of nearly rectangular form, 592 ft. on the south side, 570 ft. on the north side, and 698 ft. on the east and west sides, thus enclosing more than eight acres. The south side, overhanging the sea, was entirely occupied by a magnificent open arcaded portico 24 ft. wide. The other sides were lofty walls of solid and plain construction, broken by ten massive square towers, regularly disposed. In the

middle of each side was a great gate, flanked by octagonal towers, giving access to two streets 36 ft. wide crossing at right angles in the centre of the quadrangle, thus practically dividing it into four blocks of buildings. These streets were bordered by arcades 13 ft. wide. The two north quarters are an indistinguishable mass of ruins; they were probably occupied by guests and officers of the palace. The street running north and south is the principal avenue. It is entered at the north end by the Porta Aurea (golden gate); in the middle of this side and after crossing the other avenue, is the centre of the quadrangle; it opens into the great court of the palace, now the Piazza del Duomo, a large square surrounded by an arcade supported on each side by six granite Corinthian columns with marble lattices between. At the south end of the court a flight of steps gave access to a tetrastyle Corinthian portico, which opened into the *vestibulum*, a circular apartment 38¾ ft. in diameter, lighted from the roof. Beyond this was the quadrangular atrium, 98 ft. by 45½ ft. (in the centre of the seaward front), from which access was had on the east and west sides to a magnificent suite of apartments, occupying the principal part of the south front. Beyond these on the right were the private apartments of the emperor. On each side of the court of the palace, near the centre, there is an area of 154 ft. by 94 ft., containing a monumental structure; that on the east the so-called Temple of Jupiter, now the Duomo (*q. v.*), which is in fact the Mausoleum of Diocletian, and on the west side the Temple of Æsculapius, now the Baptistery (*q. v.*). The material is a limestone but little inferior to marble, from the quarries at Traü. The arches of the central court are of great importance in the history of architecture as the earliest to which a precise date can be assigned, which consistently spring directly from the abaci of the columns, abandoning the earlier Roman fashion of an intervening piece of entablature. The same principle was applied at nearly the same time in various Syrian buildings. The Palace of Diocletian thus at once belongs to the decadence of purely Roman art, and marks the dawn of the era of modern art.

SPARTA, Greece.

Amphitheatre, east of the Acropolis, near the river; a brick building of late Roman period. Leake calls it a circus, and thinks it perhaps the smallest in existence. It is nearly circular; the greater diameter being 180 ft., that of the arena 62 ft. The walls, about 16 ft. thick, are supported on the outside by large buttresses at small distances apart. No seats remain.

Theatre, on the S. W. side of the hill of the Acropolis, in which it is partly excavated; but the wings of the cavea are wholly built in stone. The stage structure is a Roman construction of brick. The exterior diameter is over 430 ft., orchestra about 105 ft. The seats are mostly or entirely gone. Pausanias says it was built of white marble and was one of the sights of Sparta. The remains are in great part hidden under earth washed from above.

Tomb of Leonidas (opposite the Theatre), whose bones were brought from Thermopylæ and placed in it forty years after his death. The name is popularly given now to an imposing ruin about 45 ft. by 23 ft., built of large quadrangular blocks, which stands to the north of the modern town. This ruin is apparently a heroön, but can hardly be that of Leonidas, as it is too far from the theatre to agree with the ancient record.

SPELLO (anc. Hispellum or Colonia Julia), Italy.

Cathedral (Sta. Maria Maggiore) a church that was Gothic, entirely transformed in aspect during the XVI century. It has an aisleless nave in four low,

groined bays, and a choir that ends in a seven-sided apse. The baldacchino over the high altar, a domed canopy on four light columns, of very graceful detail, and one of the most elegant examples of the early Renaissance, is the work of Rocco of Vicenza, who remodelled the choir in 1515. The façade, of 1664, has an effective portal.

S. ANDREA, belonging to the Franciscans, is a cruciform church with a single nave and three apses, built after the middle of the XIII century. The four bays of its nave have oblong groined vaults with pentagonal ribs, and are similar to those of the Cistercian church of Monte l'Abate (*q. v.*). Similar oblong vaults cover the three compartments of the transept. [A. L. F., Jr.]

The TRIUMPHAL ARCH is supposed to have been dedicated to the emperor Macrinus (A.D. 217). It is very ruinous; as restored by Rossini it had a central arch with a smaller arch on each side, separated by four Doric pilasters supporting an entablature, above which was an attic with six engaged Doric half-columns.

The ancient WALLS, with towers, are in themselves noteworthy, and preserve important remains of three gates. One of these, the Porta Consolare, is built of limestone resembling marble, and has three archways. On the exterior face, on consoles over the arches, stand draped statues of late date. Another gate, the Porta Venere, on the S. W. side, has a decorated triple archway causing it to resemble a triumphal arch; it is flanked by two towers of much later date. The Porta Urbana, between the two others, in a fine stretch of ancient wall, is now blocked up. About a mile outside of the Porta Consolare are ruins of an amphitheatre, now overgrown with grass.

SPOLETO (anc. Spoletium), Italy.

CATHEDRAL (Sta. Maria Assunta), originally a Lombard or Romanesque building, now much modernized, especially within, but retaining on the exterior much of its first character. The façade has a noteworthy Renaissance porch with five circular arches, springing from ancient columns, and above these a frieze charged with sculpture. At each angle of the porch is a stone pulpit. In the gable is a fine rose window, and the rake of the gable is masked by a gallery. Over the porch is a large mosaic of the Saviour throned between the Virgin and St. John, and bearing the name of the artist, Salserius, with the date 1207. The bishop's chair was removed to this church from S. Pietro, the earlier cathedral, in 1067, this being nearly the date of the completion of the interior of the present church. There is a great campanile with a loggia at its base, and terminated by a spire, the former added in 1416, the latter in 1519. The interior, which was rebuilt in 1644 in the Renaissance style, is remarkable only for its frescoes dating from 1378 and later. Those in the choir are by Filippo Lippi, whose tomb is here.

STA. MARIA DI LORETO, a XVI cent. Renaissance church, covering a square of about 120 ft., but inwardly a Greek cross with three square arms covered by barrel-vaults, and one semicircular, the latter forming the choir and covered by a semi-dome. The interior is surrounded by an order of Corinthian pilasters, from the entablature of which spring the barrel-vaults of the arms and four great round arches, upon which it was manifestly intended to raise a central dome, which, however, was never built. The angles of the square are filled with chapels and sacristies. The architect is not known.

S. PIETRO (St. Peter), a singular Romanesque church, standing just outside the walls of the town, on a hill, and approached by a long staircase. The façade is a square mass of stonework with much curious sculpture, in two stories separated by a quasi-classic cornice. The first is very high and divided by flat pilasters

into five compartments, of which the central one contains a large square doorway, surrounded by a broad band of sculpture of Byzantine character, flanked by two panels of similar treatment, with arcades and bas-reliefs. Above the door is a circular window, now walled up, and diminished to a horseshoe arch by the encroaching door-head. On either side of the central division is a vertical row of panels filled with grotesque bas-reliefs. The side divisions have each a square door with a round bearing-arch above it. The second story has a large circular window in the middle, now partially filled up, enclosed in a square panel with decorated border and figures in the four corners. On either side is a small circle with coarse Gothic tracery, and a similar circle over each of the side doorways. The interior is modernized. This church in its original form dates probably from the middle part of the VI cent., and was until 1067 the cathedral church. During the fierce wars of the following centuries it was successively destroyed by Goths, Saracens, and Ghibellines, and as often rebuilt, the last rebuilding having been accomplished in 1329. The façade, or at least its lower story, is probably much earlier than this, and a part of its grotesque sculptures are thought to be as old as the end of the VI century.

Among the remains of antiquity are the Porta d'Annibale, a plain arched gateway in massive masonry spanning the principal street. The relief of a lion devouring a lamb is a mediæval addition. The Chiesa del Crocifisso, whose façade and interior disposition are those of a Christian basilica of the time of Constantine, retains some of the columns and portions of the walls of a temple believed to have been that of Concord. S. Andrea, now used as barracks, possessed fluted Corinthian columns from the temple of Jupiter, and in San Giuliano are seen fragments of the Temple of Mars. A massive ruin is called the Palace of Theodoric.

STAMBOUL. See *Constantinople*.

STILO, Italy.

LA CATTOLICA, a small but characteristic example of a Byzantine church. It is a cubical mass only about 25 ft. square, its plan divided in Byzantine fashion into nine bays by cross arches supported on four plain marble shafts without bases, and with rude block capitals. In the east side are three round apses. The central bay is covered by a hemisperical dome on a high drum, the four bays that abut against it forming a Greek cross are barrel-vaulted, and the four corner bays covered with domes like the central dome, but lower. The exterior is of brick, each side being covered by a low gable. In the west side is a plain high round-arched doorway. Out of the roof rise the five domes, but appearing each a cylinder with low tiled roof. The wall surface in all is covered with a fine diaper in terra cotta. Under the church is a crypt, with vaults carried on columns with capitals of various form, some with stilt-blocks. The date of the church is uncertain, but it has been assigned to the VIII cent., and more probably to the IX.

STIRIS, near Delphi, Greece.

The CONVENT OF ST. LUKE, founded in the middle of the X cent., contains two early Byzantine churches; the larger, dating probably from the beginning of the XI cent., is one of the most important and best preserved Byzantine churches in Greece. It has banded walls of brick and stone, two stories high, with a central dome on a drum of sixteen sides above a square base, from which radiate the roofs of the nave, choir, and transept, ending in gables in the middle of each façade. It is about 55 ft. by 100 ft., and is entered from the west through a plain narthex later than the rest, crossing the front. Within this is the original narthex, in three groined bays lined throughout with

a rich facing of marbles. The great dome is carried not on pendentives, but on squinches, by eight piers. An upper gallery over the aisles corresponds to the second story of the exterior, crossing the transept on arcades, and connecting with the upper story of the original narthex. It is entered from without, and was doubtless intended as a gynecæum, or women's gallery, for the community outside the monastery. The sanctuary, behind the dome, is a square bay, widened by a shallow niche on each side, and behind it is the usual Byzantine apse, round within and polygonal without, lined with stone benches for the clergy, and lighted by two stories of twin windows. The whole interior, up to the springing of the vaults, is clad in a rich wainscoting of colored marbles ; the iconostasis, or screen before the sanctuary, is an elaborately decorated composition of like materials, and the floor is laid with them in slabs and bands. All the vaults and domes, including those of the inner narthex, are lined with mosaics on a gold ground depicting in great variety scenes from the lives of Christ and of the saints, and from Bible history, with a profusion of ornamental detail, giving an effect of great splendor, though marred by dilapidation and dimmed by the blocking up of many windows.

Adjoining the greater church, on the right of its sanctuary, is the smaller and simpler church, on the common Byzantine plan of a Greek cross inclosed in a square, with a central dome on four round piers, and three eastern apses of Byzantine form. Across the front of it is a great narthex, three bays in width and two in depth, groin-vaulted, and communicating with the greater church.

STRATONICEA (Eski - Hissar), Caria, Asia Minor.

The Temple of Hecate (?), Corinthian, hexastyle, prostyle, is raised on a basement with six steps in front, between projecting piers. Behind the front portico the temple has a pronaos with four columns *in antis*, and behind this a vestibule formed by antæ projecting at right angles from the side walls, and with two columns in the open space between them. At either side of the vestibule there were small chambers, which may have contained stairs. Back of the vestibule were three cellas side by side, each with its own door. That on the left-hand side appears to have had also a second door, in the exterior side wall. The extreme dimensions are 80 ft. by 115 ft. Fragments remain of the coffered ceilings. The temple stood in the middle of a large square peribolos or enclosure.

The ancient Walls, with rectangular towers, have left extensive remains, and there are a number of important ruins within the enclosure. Among these there is, on the north side, what was apparently a monumental propylæum, with arches preceded by a portico of ten unfluted Corinthian columns on the inner face. At some distance in front of this, and in alignment with it, there was a large columnar structure, also with a decastyle portico. Outside the walls was an extensive street bordered with porticoes, beginning at the propylæum.

STRATOS, Acarnania, Greece.

Doric Temple, peripteral, in plan 111½ ft. by 60 ft. The crepidoma survives entire, and the lowest drums of most of the columns remain in place. A large altar stands before the east front ; near it were found a quantity of fragments of terra-cotta figurines. In the neighborhood of the temple the French School has discovered a large building of the character of a stoa, which may have fronted on the agora.

SUBIACO, Italy.

Sta. Scolastica was one of twelve monasteries founded by St. Benedict in the neighborhood of Subiaco, all of which came to be populous and richly endowed. They were devastated by repeated incur-

sions of the Lombards and Saracens in the VII and VIII centuries. The old church of Sta. Scolastica was restored in 981 by Benedict VII. (who built also the chapel of the Sacro Speco), its low roof being supported by five great pointed cross-arches. It was rebuilt in the XVIII cent., by Pius VI., with an order of Ionic columns set against the old piers, supporting an entablature, from which springs a circular barrel-vault divided by transverse arches. The choir, a single oblong bay with semicircular apse, remains, but quite modernized to accord with the new nave. The five great arches of the old church still remain, the new vault of the nave being built under them. The square mediaeval tower also remains, in several stages, with grouped round-arched windows divided by columns. The two cloisters of the old monastery are still in existence : the larger one, dating from 1052, has two stages, the lower, strange to say, with plain pointed arched openings in a solid wall, and a second story of dormitories with small square windows. The other cloister dates from 1230 and has slightly stilted round arches on slender columns in groups of four, five, and six, between piers, and raised on a stylobate.

SUESSA AURUNCA. See *Sessa*.

SUNIUM, Attica, Greece.

TEMPLE OF ATHENA SUNIAS (Pallas of Sunium), on a rugged promontory forming the southernmost point of Attica. The walls of the peribolos, built of coarse stone faced on the outside with white marble, may be traced down to the shore. The entrance was perhaps through propylaea. The temple was probably of the V century B.C. It was Doric, hexastyle, peripteral, on a stylobate of three steps ; the material coarse white marble. Nine columns are still standing of the south peristyle and two of the opposite side. Two columns of the pronaos survive, with one of the antae and a portion of the other. The architrave blocks still rest upon the columns. The frieze was sculptured with reliefs representing the deeds of Theseus, particularly the battle of the Centaurs and Lapiths.

SUR. See *Tyre*.

SUSA (anc. Segusio), Italy.

TRIUMPHAL ARCH of white marble, erected in honor of Augustus about 8 B.C., by the Gallic chieftain Cottius, who became in his reign an ally of the Roman empire. The inscription on the attic enumerates fourteen tribes subject to Cottius. The ground-plan measures 29½ ft. by 19½ ft.; the height is 41 ft. The monument is pierced with a single archway of 16 ft. span and 24½ ft. high, having a pilaster with Corinthian capitals on each side, and encircled by a Corinthian order with a fluted column at each corner, on a pedestal 2½ ft. high.

SUTRI (anc. Sutrium), Etruria, Italy.

AMPHITHEATRE, hewn from the tufa rock, the only such example known. It is small and somewhat irregular in plan, probably owing to its having been formed in a pre-existing stone-quarry. It is assigned to the imperial epoch, though early students held it to be Etruscan. The axes of the arena are 164 ft. and 132 ft.; the surrounding podium is skirted by a vaulted corridor, a very rare feature. Precinctions interrupt the tiers of seats at frequent intervals, and a broad gallery surrounds the top of the auditorium. At intervals about half-way up the slope of the seats are placed nine curious arched alcoves, sheltering benches, probably seats of honor for the local magistrates. The vomitoria are interesting and very perfect, as are the arrangements for drainage.

SUWEDA, Hauran, Syria.

The ruined BASILICA is a large church, with double aisles, a closed narthex, and a deep sanctuary of two straight bays and a round apse, flanked by the two usual chambers or sacristies. The whole length is 220 ft., the width of the nave 40 ft.

There were double arcades on each side the nave, supported by twenty-eight columns, some of whose rather rude capitals, apparently taken from some older building, are still found. The aisles, sanctuary, and narthex were roofed with stone slabs and the nave with wood. The church was probably built in the V century.

TEMPLE, with thirteen Corinthian columns standing out of the twenty-two of its peristyle. There are some smaller columns *in situ* in the interior of the cella. The design of capitals and cornice is stiff and poor.

TOMB OF CHAMRA, wife of Odenathus, dating probably from the I century A.D. It is of square plan, about 36 ft. on a side, and of massive construction. On a stereobate of two steps stand on each face six somewhat rude engaged Doric semi-columns, the wall between which bears curious round and oval knobs. The total height was about 40 ft.

SUWEIDIYEH. See *Seleucia Pieria.*

SYRACUSE (Siracusa), Sicily.

ALTAR OF HIERON II., near the theatre, discovered in 1839. This gigantic altar, built for the annual sacrifice of four hundred and fifty oxen, was reputed in antiquity to be a stadium (furlong) in length. The substructions were partly cut from the rock and partly constructed of masonry, and are adorned with mouldings, and covered in parts with stucco. Part of the steps ascending to the platform survive, and portions of a Doric entablature of late type. The existing foundations are 645 ft. by 75 ft. The altar was built or restored by Hieron between 265 and 215 B.C.

AMPHITHEATRE, on the slope of the hill below the present chapel of S. Niccolo. It is probably of the time of Augustus or Tiberius (A.D. 28–37). On one side it is excavated in the rock, but it is built up with masonry on the lower slope. The arena, whose axes are 229 ft. and 121 ft., is surrounded by a podium about 7 ft. high, under which there is a vaulted corridor with eight gates, opening into the arena. In the middle of the arena is a rectangular cistern 55 ft. by 28 ft., in which stand the piers that supported the floor. The seats were in three ranges: the two lower ranges, hewn from the rock, still remain in the eastern half, but are nearly gone on the west side. The arena could be supplied with water from a subterranean reservoir under S. Niccolo.

The CATHEDRAL (Sta. Maria delle Colonne) is built into an old temple which is identified with the temple of Athena (Minerva), built in the VI cent. B.C., despoiled by Verres, and described in Cicero's orations against him. The cella was taken for the nave, the main arcades being cut through its walls; the lateral porticoes became the aisles, and the walls of the church were built in between the columns (7 ft. in diameter) of the peristyle, which show in many places, both outside and inside. In 1693 an earthquake shook down the front, which in the course of half a century was replaced by the modern baroco façade. The temple was Doric, hexastyle, peripteral, with fourteen (perhaps fifteen) columns on the flanks, on a stylobate of three steps; in plan it measured 75 ft. by 188 ft. The columns have twenty channels; their diameter is, at the base, 7 ft., at the neck, 5 ft. (?); their height, 28 ft. 7 in.; the intercolumniation, 14 ft. 4 in. There is but little entasis; the triglyphs are narrow; the cornice has wholly perished. Thirteen columns remain of the north peristyle, and nine of the south, as well as the two monolithic columns *in antis* of the pronaos, which are higher than the peristyle columns. The opisthodomos was destroyed when the temple was converted into a church.

FORT EURYALOS, now called Mongibellesi, on the ridge between the citadel and the village of Belvedere. It is a massive construction of rectangular masonry, with

broad, square towers, and was skilfully placed so as to form the key of the entire system of fortifications. It is still one of the best surviving examples of an ancient citadel. The site was strongly fortified by the Syracusans in the course of the Athenian Expedition, but the existing remains are attributed to Hieron II. (II century B.C.).

The OLYMPIEUM, or Temple of Olympian Zeus, about two miles west of Ortygia (the modern city), was an important temple in which were preserved the ancient lists of citizenship, and may be assigned to the end of the VII century B.C. The visible remains consist only of two mutilated columns. The temple was Doric, hexastyle, peripteral ; the columns, of sixteen channels, have a base diameter of about 6 ft. 2 in., and an intercolumniation of about 12 ft. Their height is estimated at 26 ft. Interesting remains have been found of the revetment of the cornice and other ornament in painted terra-cotta.

TEMPLE OF APOLLO. See *Temple of Artemis*.

TEMPLE (OF ARTEMIS ?) on the Island of Ortygia, an archaic example of Doric of which the scanty remains are now visible in the wall of a private house in the Vico di San Paolo. It was peripteral, hexastyle, with seventeen monolithic columns on the flanks, on a stylobate of four steps, with very narrow intercolumniations on the flanks (the front intercolumniations are larger and vary) and shafts with sixteen channels, tapering but little. The capitals are wide-spreading, so that the abaci come very close together, and there is a scotia beneath the echinus. Parts of nineteen columns survive, with a fragment of the architrave and parts of the antæ of the pronaos and of the cella wall. The dimensions were about 77 ft. by 172 ft., the columns are 6 ft. in diameter at the base, 5 ft. 1 in. (?) at the neck, and 27 ft. 6 in. high, the material is a yellow tufa. An inscription on the stylobate contains the name of Apollo, whence some authorities attribute the temple to that god. A flight of steps projects before the central intercolumniation of the front, and an inner range of four columns, extending between the third columns of the flanks, intervenes between the front and the pronaos, which had two columns *in antis*. There were no regulæ and guttæ. The type of the temple is akin to that of Temple C at Selinus ; it dates at least from the VII cent. B.C., perhaps from the VIII, and may even be the oldest surviving example of a Doric temple built wholly in stone.

THEATRE, among the largest of the Greek world, built between 480 and 406 B.C. The external diameter was 492 ft., that of the orchestra, 110 ft. The cavea was subdivided by two precinctions or horizontal passages. The lowest range, divided by flights of steps into nine cunei, had twenty-one tiers of seats. Remains of forty-six tiers of seats, in all, are traceable ; it is estimated that there were fifteen more. The cavea is in part excavated from the rock ; the seats were probably covered with marble.

TADMOR. See *Palmyra*.

TAENARUM, Laconia, Greece.

TWO TEMPLES, probably forming part of a sanctuary of some importance, not far from the monastery of Kourno. That toward the north was a small Doric edifice with two columns *in antis*. The wheel-shaped acroterium is noteworthy. The larger south temple is a peripteros of six columns by seven, the angle-columns having the form of rectangular piers with semi-columns toward the long sides of the temple, so that the square faces of the piers are on the two façades. This building too was Doric, but the columns had moulded bases ; it had an acroterium of the same carved wheel type. The cella was surrounded on the outside with a triglyph frieze, and paved with small stones. The dimensions, measured on the

edge of the upper of the two steps of the stylobate, are 31 ft. 10 in. by 26 ft. 9 in.

TAFKA, Central Syria.

The BASILICA, an interesting early Christian church, differs from the neighboring one at Shakka (*q. v.*) only in simpler workmanship, and in having an elliptical apse in the rear wall, and a square tower added at the left of the front. It is thought to date from the IV or V cent., a century or two later than Shakka.

TAGLIACOZZO, Italy.

S. FRANCESCO is a fine example of the vaulted Franciscan churches of the XII cent., with a single nave. Its ground-plan is cruciform, with three bays to its nave, two to its transept, and one to its apse. The entire church is covered with ribbed groin-vaults; those over the nave are nearly square, being 36 ft. wide by 32 ft. long, and the smaller vaults over the aisles of the transept are of similar proportions, but the central vaults of the transept and that of the apse are much narrower and oblong. The façade has a charming door and a fine rose-window. Of about the same period and style is the church of S. Cosimo. [A. L. F., Jr.]

TAORMINA (anc. Tauromenium), Sicily.

ANCIENT THEATRE, on a rocky height east of the town, several hundred feet above the sea, and commanding one of the finest views in the world, including Mt. Etna and the seacoast as far as Messina. It occupies a natural hollow in the side of a hill facing west, the seats of the cavea being hewn from the solid limestone rock. It is perhaps the best preserved ancient theatre, except that of Aspendos. It is of Greek foundation, but Roman remodelling, in plan a little larger than a semicircle, the cavea being extended on each side about 10½ ft. The cavea is divided by flights of steps into nine cunei or wedges, and by two precinctions or horizontal passages into three ranges of seats. It was skirted above by a vaulted gallery, with ten arches opening on an exterior corridor. Above this gallery there was a Corinthian colonnade, six granite columns



Fig. 212.—Taormina, Ancient Theatre.

of which are still standing. The diameter is 357½ ft., that of the orchestra 129 ft. The stage-structure, with its brick construction and marble encrustation, is Roman. The back wall of the stage is pierced by three doors with three niches between each pair, and one at each end. The niches were adorned with an advancing order of Corinthian columns in granite, cipollino, and red marble. In the second story there was also a range of Corinthian columns. The foundations remain of the proscenium wall. The stage measured 77½ ft. by 38 ft. Behind it there was a long hall, and on either side flanking chambers. Beneath the stage is a vaulted underground passage of communication. (*See Fig. 212.*)

TARRACINA. See *Terracina.*

TEGEA, Arcadia, Greece.

The TEMPLE OF ATHENA ALEA (Minerva of Aleus), founded by Aleus, founder of the city, was burned in 395 B.C.,

and rebuilt by the famous artist Scopas of Paros. It was of white marble, and is described as excelling in beauty of design and workmanship all other temples in Peloponnesus. The order of its principal columns, according to Pausanias, was Doric, those next in importance were Corinthian, and others were Ionic. The pediments were filled with statuary. The ancient statue of Athena Alea, which was preserved in the temple, was transported to Rome by Augustus, and placed at the entrance to his new forum. The temple, partially explored in 1879, was a Doric peripteros of six columns by fourteen; the foundation, of large blocks of breccia, measured 70 ft. by 164 ft.; the lower diameter of column, approximately 5 ft. 11 in.; the upper, 4 ft.; the height, 26 ft. 3 in.; the number of channels, twenty. The cornice was surmounted by a cyma carved in relief with the Ionic vine ornament, and with projecting lion heads. The joints were covered by anthemia. The roof was covered with marble tiles of the usual design.

TEGGIANO (Diano), Apulia, Italy.

The Churches of S. Pietro and Sant' Andrea have been built upon the foundations and with the materials of two small Roman temples, each with two Composite columns *in antis*, a frieze of triglyphs and sculptured metopes, and a Corinthian cornice. Enough remains of both stylobates and of all the architectural elements for a complete restoration. Remains of similar temples exist in the lower town and in the neighboring village of San Rufo. One of them was circular, and presents the same mixture of orders.

Roman Theatre, partly built into the church of S. Michele Arcangelo. The essential dispositions of the ancient structure are still plainly visible; it was probably an odeum, and very similar to the odeum of Pompeii. Two columns of pink granite belonging to the decoration of the stage-structure remain in their ancient position, and now support the organ of the church.

TELMISSOS, Lycia, Asia Minor.

Necropolis, of great interest, and including tombs of many different types. At the foot of the cliffs are ranged sarcophagi or mausolea, most commonly with heavy lids or roofs of the keel-shaped type, and in the face of the rock are several tiers of façades, many of them of Greek type, particularly some with two Ionic columns *in antis* beneath entablature and pediment, and richly framed doors in the pronaos, some of them with excellent sculptured friezes, and others exhibiting the imitation of Lycian wooden construction, with its beam-ends, panelled doors with projecting nail-heads, knocker-rings hanging from lions' mouths, and other characteristic features.

Theatre, at the S. W. end of the city, on the slope of a hill at the issue of a narrow valley. The cavea and seats are well preserved and of excellent style. The plan is semicircular, the exterior diameter 254 ft., that of the orchestra 92 ft., the perpendicular height 45 ft. The cavea retains twenty-eight tiers of seats divided by a precinction, or horizontal passage $8\frac{1}{2}$ ft. wide, above the fifteenth tier from the bottom. The stage structure was 141 ft. by 40 ft; its foundations survive.

TEOS, Ionia, Asia Minor.

Temple of Dionysos (Bacchus), a splendid Ionic structure built by the architect Hermogenes. It was octastyle, pseudo-dipteral, on a stylobate of three steps. The columns had twenty-two flutes; their diameter at the base was 3 ft. 4 in., at the neck 3 ft. 1 in.; their height is reckoned at 26 ft. 2 in. The sculptured frieze is now at Constantinople. The temple, which stood in an area surrounded by porticoes, now lies in a confused heap of ruins.

TERAMO (anc. Interamna Picenum), Italy.

The Cathedral is an old Gothic

church whose history is not known, though there was a bishop there from the VI century. The Gothic choir is in two bays with aisles and square east end, inclined at an angle to the rest of the church. It was built, about 1330, on to an older church, which in 1739 was altered into the modern nave, aisles, and transept, with new vaults, and piers cased in an order of pilasters. The rich chapel of S. Bernardo, added in 1776, extends the north transept arm, ending in an apse. The middle door of the square plain front is a handsome piece of Gothic, with twisted jamb-shafts, a crocketed canopy flanked by small shrines, a mosaic tympanum, and an inscription dated 1332, ascribing it to *Magister Deodatus de urbe* (*i.e.* of Rome). The graceful campanile stands obliquely against the south side of the choir, a tall square tower with an octagonal lantern crowned by a low spire beset with gables, but it is also modernized.

There are plentiful Roman remains, among which an amphitheatre, a theatre, whose large vaulted substructions are now called Le Grotte, extensive baths, and aqueducts are the most conspicuous.

TERGESTE. See *Trieste*.

TERMESSOS, Pisidia, Asia Minor.

THEATRE, in the middle of the town, at the N.W. corner of the agora, whence an entrance led to the *diazoma* or horizontal passage of communication. The plan is more than a semicircle, the south wing, especially, being extended as far as possible. The exterior diameter is 208 ft.; there are eighteen tiers of seats below the diazoma, and nine above, most of them in place.

TERNI (anc. Interamna Umbria), Italy.

The RUINS of the ancient Roman town include remains of the amphitheatre, of two temples believed to be those of the Sun and of Hercules, and of thermæ. The former, which is incorporated in the church of S. Salvatore, is circular.

TERRACINA, Italy.

The CATHEDRAL (S. Cesareo) stands on the public square, which is the ancient forum, and on the site of the old temple of Rome and of Augustus. It is believed to have been founded by Theodoric, whose name appears in an inscription in it, and in its present form is a three-aisled basilica without transept and with three eastern apses. Of the six round arches carried on antique columns which line each side of the nave, the easternmost pair is made larger than the rest, giving within somewhat the aspect of a transept. The capitals and the main apse are modernized, but the old pavement is preserved, and also the mediæval pulpit, bishop's chair, and tabernacle. These are enriched with carved colonnettes and with mosaic. Across the front is an open porch or narthex, built or renewed in the middle of the XII cent., with a range of ten antique Ionic columns in front, two of which stand on the backs of lions. The architrave is enriched with an arabesque in mosaic, and above on the front is a pointed arcade. The bell-tower has four stories of blind arcades crowned by a modern roof.

The MOLE OF THE ANTONINES, built of an inner mass of *opus incertum* of tufa and mortar, is faced on its vertical interior side with *opus reticulatum* of limestone, and on its upper surface and the inclined face toward the sea, paved with flat blocks, also of limestone. The two rectilinear arms of the mole unite at the north in a right angle, where was a large monumental gateway. On the west side of the angle there was an arcaded portico 200 ft. long and 30 ft. wide, at the end of which was a stair leading to the terrace above the buildings. The portico consisted of arcades opening toward the quay, and was preceded by the colonnade of Corinthian columns without bases which adorned the entire interior front of the constructions bordering the quay on the east and west.

From the end toward the S. W. extended a series of seventy-six vaulted chambers, opening behind the colonnade which bordered the quay. The height of the vaults is 17 ft. and their masonry is 5 ft. thick. The columns stand 9 ft. in front of the dividing piers of the chambers, and the quay in front is 14 ft. wide. At intervals of $58\frac{1}{2}$ ft. on the water-face of the quay are set up great eyes for mooring, cut in blocks of white limestone. The masonry of the chambers is in *opus reticulatum* framed in ashlar. The entablature of the colonnade was of wood. The chambers served for storage; some of them were open, some closed with gratings, and others with a wall and door. Beyond the range of warehouses the long bare mole extended in a curved sweep, ending at the ship-passage in a platform which bore a little temple, probably of Venus. The N. E. mole no doubt bore the usual light on the extremity; the whole of its superstructure was demolished to make room for the former pontifical palace, now a prison.

Palace of Theodoric, so-called, on the summit of the rock, whence it commands a superb view. The ruins are picturesque and conspicuous in the landscape, and many of the corridors and rooms are still perfect, and in themselves of much interest. Only the lower story remains, choked with rubbish, but showing conspicuously on two fronts an open vaulted arcade in random masonry, with arches carried on massive piers and springing from a simple moulded impost.

The Roman Port, now entirely choked, still displays in large measure its ancient structural dispositions. It was of very ancient foundation, and having become silted up, was restored by the Antonines.

THASOS, Cyclades, Greece.

Triumphal Arch, at Limenas, dedicated by the city of Thasos to the emperor Marcus Aurelius. The ruins are standing to a height of 10 ft. The structure was in marble, 54 ft. wide, and with three arches, of which that in the middle has a span of 20 ft. The arch was surmounted with a group of Hercules struggling with a lion. On either side of this group there was a single statue; one of these survives, and appears to represent the empress Sabina.

THEBES, Bœotia, Greece.

Aqueduct, by which the ancient city was supplied with water from Mt. Kithadion, over eight miles away. Its construction was ascribed to Cadmus. It was altered and brought again into use by the Franks, and still serves.

Temple and Sanctuary of the Cabiri (Kabeiroi), or apparently more exactly, of the Kabeiros Prometheus, and his son Aitnaios, three and a half miles from the Neistian Gate. According to tradition, this sanctuary was defended by thunder-bolts from heaven when in danger of sack by Alexander's soldiers. The site has been explored by the German Institute at Athens since 1887. The foundations are 73 ft. 8 in. by 23 ft., and show a cella which was preceded by a pronaos of four columns. Behind the cella there was an opisthodomos which seems, from the light character of the foundations, not to have been roofed, but to have been an open walled enclosure used for sacrifices. These remains represent an enlargement of an earlier and simpler structure. There are traces of a peribolos in polygonal masonry. Below the temple to the N.W., in the Cabiri sanctuary, and approached from it by means of a flight of steps, was a series of chambers. It is conjectured that they were lodgings for the functionaries attached to the temple. The stoa in the Cabiri sanctuary is marked by a wall running south, in a line with the front of the temple and bearing traces of six columns.

THESSALONICA. See *Salonica*.

THORICUS, Attica, Greece.

Domical Tomb of the Mycenæan epoch, discovered 1890–91. It is of un-

usual design in that it has a vaulted *dromos* or entrance-passage.

MILITARY TOWER, of rectangular plan, west of the theatre. The walls, which still rise to the height of about 10 ft., are built in the same rock-faced, rambling-bed ashlar as the rear wall of the theatre, and of the same coarse, bluish marble.

STOA, near the base of the Acropolis, probably of the IV century B.C. It was Doric, heptastyle, with fourteen columns in each flank, on a stylobate of two steps; the ground-plan, 107 ft. by 50 ft. Portions of sixteen columns remain, eleven on the east and five on the N. W. side. The columns are channelled only in a ring at the base and neck. Within the enclosure were found capitals of columns differing from the order of the peristyle. These perhaps belonged to a central interior range for supporting the roof. The building was never finished.

The THEATRE, explored in 1886 by the American School at Athens, is of very irregular form, the cavea being in part constructed on the side hill, and shaped but little by art; and in part supported by a retaining-wall of quarry-faced ashlar in broken-range work, which is referred to the latter half of the V century B.C. There are remains of thirty-one tiers of seats in a soft, coarse, bluish marble — smooth blocks simply cut square, about 13½ ft. high and 23½ ft. wide. There were three unequal *kerkides* or cunei, formed by two *klimakes* or stairways. At the eastern extremity of the orchestra the three lowest seats are interrupted to give room for a pedestal. At the rear of the retaining-wall are two massive abutments which afforded access to the cavea from without by inclined planes. That further to the west is pierced with a passage closed above by stones corbelled out in horizontal beds. The lowest tier of the cavea, wider than the others, may have supported thrones or seats of honor. The cavea could accommodate about five thousand spectators. The floor of the orchestra was of red earth, compactly beaten down. At the west side, separated from the cavea by a *parodos* or passage, was a small temple facing east, probably Ionic, *in antis*. This building is referred to the Macedonian period. It is possible that the theatre is considerably older than the American explorers have estimated, and that its irregularity of shape and roughness of construction are accounted for more by the undeveloped state of theatrical architecture at the time of its foundation, than by a somewhat extraordinary local deficiency in æsthetic feeling which has been lately attributed to the people of Thoricus. The theatre was undoubtedly designed for dramatic representations.

THOURIA, Messenia, Greece.

The DORIC TEMPLE, of small size, remains in excellent preservation. It is built of a hard brown limestone containing shells.

A ROMAN BUILDING, in the plain below Palaiokastro, probably the palace of some high official. It is unusually well preserved, retaining even portions of its vault of rubble and cement. The walls are 17 ft. high, of flat bricks laid in thick layers of cement. The ruin is very extensive, and includes baths.

TIRYNS, Argolis, Greece.

ACROPOLIS of primitive Cyclopean or Pelasgic construction, enclosing elaborate ancient buildings (commonly called a palace) of very ancient Hellenic foundation, and dependencies, discovered by Schliemann and Dörpfeld in 1884–85. The flat top of the rock enclosed is about 980 ft. by 330 ft., the northern half, given up to the dependencies, being lower than the southern half, which is occupied by the palace. The original height of the wall is estimated at 65 ft., its thickness is 26 ft. On the south and S. E., the wall is much thicker, and in it are narrow passages communicating by doorways cut to the form of pointed arches with two series of

small storage-chambers or magazines in the thickness of the wall. These galleries and chambers have long been known. Similar chambers exist in the citadel of Carthage. The roofs of the galleries and chambers are formed of blocks corbelled out. The wall is built of stones 6 ft. to 10 ft. long and 3 ft. thick, almost unhewn, placed in regular layers, connected by smaller stones and bonded with clay. The palace is a close parallel of the Homeric house of the more elaborate kind, with its outer gate, its chief court, surrounded by colonnades, upon which open the public rooms, the chief of which is the *megaron* or assembly-hall (38½ ft. by 32 ft.) besides sleeping-rooms for guests and attendants, a bath-room, etc. Its inner or private apartments are grouped about the two so-called women's courts, and are approached only by means of indirect and circuitous passages. In one corner of the chief women's room (25 ft. by 18 ft.) there remains a portion of the ancient wall-painting on plaster, and other fragments have been found in other rooms, the designs repeating those previously known from several sites of the so-called Mycenæan civilization. In the vestibule of the men's megaron was found a carved frieze of white alabaster, beautifully inlaid with blue glass. Some pottery as old and rude as that from Ilion was found, but most of the pottery is more advanced in style. Some fragments as late as the Dipylon period were discovered. Remains of an archaic Doric temple, of course much later than the foregoing, were found on the site.

TIVOLI (anc. Tibur), Italy.

Temple of the Sibyl, so-called, very commonly called Temple of Vesta, and ascribed by Nibby to Hercules Saxanus. This graceful circular structure overlooks the sheer gorge of the Anio, and at once gains in interest from its romantic surroundings and adds beauty to them. It consisted originally of a portico of eighteen Corinthian columns surrounding a circular domed cella raised on a plain basement. The dome and eight columns are now gone. The columns are slender, and the acanthus-leaves of the capitals are sharp-toothed and excellently composed. The frieze is sculptured with bucrania and garlands, and the coffered ceiling of the pteroma, ornamented with rosettes, is almost Greek in character. The columns and entablature are of travertine, the cella of *opus incertum*. The cella has a high doorway with a window on each side. The temple is 34½ ft. high, the interior diameter of the cella 24 ft. The base-diameter of the columns is a little over 2 ft., and the intercolumniation a little over 4 ft. The date is prior to the empire.

Temple of Tiburtus, also called Temple of Vesta. It is a tetrastyle, Ionic, pseudo-peripteros, of travertine, with six columns on the flanks. The front portico is prostyle, and the interior of the cella is plain. The temple measures 26½ ft. by 50 ft.

Villa d'Este, one of the most conspicuous and familiar of the great suburban country houses of Rome. The main building is situated at the summit of a hill, the slope in front being laid out as a vast rectangle rising sharply in a succession of terraces and staircases to the great upper terrace, about 600 ft. long, and 36 ft. broad, on which the palace stands. From the parterre at the foot of the hill, four broad parallel staircases about 180 ft. long, bordered on each side by a water-course forming a continuous cascade, lead to the first terrace, which is planted with thick shrubbery mingled with noble pines and cypresses, and adorned with fountains and statues, and from which imposing staircases and inclines conduct to the level of the upper terrace. The palace itself, built from the designs of Pirro Ligorio, has a frontage of about 180 ft. and a depth of 100 ft., and encloses a large interior court surrounded by vaulted arcades. The façade is in three stages of rather simple de-

sign, with slightly projecting wings, plain square windows on balustrade courses, and a central projecting portico of four Corinthian columns. The villa was begun about 1540 by the cardinal bishop of Cordova, but was continued on a greatly enlarged plan by Cardinal Hippolite d'Este. Under Benedict XIV., in the middle of the XVIII. cent., it was despoiled of the greater part of its statues and bas-reliefs, which were removed to the Vatican. The water-works, which form the most remarkable feature of the grounds, were designed by Orazio Olivieri.

VILLA OF HADRIAN (or Villa Adriana), now a stupendous agglomeration of ruins, once one of the most lavish creations of the art-loving emperor, in which he sought to reproduce objects which had pleased him in his wide journeyings. It embodied a lyceum, an academy, a prytaneum, a sanctuary of Serapis, a pœcile or painted porch, Greek and Roman theatres, and many other features. Sculptures and mosaics have been found on the site in great quantities since the Renaissance, among them many important works. Since 1871 regular excavations have been conducted by the Italian Government. Among the best-preserved features is the circular structure which has been miscalled a natatorium, a maritime theatre, a nymphæum, etc. The external diameter is about 146 ft.; inside, a platform about 11 ft. wide skirts the wall, bordered by a raised stylobate on which stood a peristyle of columns. Above these columns and the exterior wall there was probably a gallery which was floored with mosaics. Next inside of the peristyle there is a canal 16 ft. wide, its bottom sloping to a depth of 5 ft., supplied with water by a conduit which is still visible. It was crossed by two swinging bridges, which turned on pivots and gave access to an inner circular structure elaborately ornamented and subdivided. This structure formed a complete Roman dwelling, comprising vestibules, central atrium, triclinium, reposing-rooms, warm and cold baths; the whole was richly paved and encrusted with marbles and porphyry, and decorated with columns, sculptured friezes, and fountains placed in niches. This imperial palace has left important remains forming three stages—on the lowest the gardens, on the next the domestic buildings and large state apartments, and on the highest the imperial residence proper, dominating the entire villa. Near by are a stadium and thermæ. The Vale of Canopus, or sanctuary of Serapis, in imitation of the Egyptian original, is an artificial excavation about 600 ft. long, and 230 ft. wide, in the tufa; it formed a large pool on which boats plied. On the right, rise several tiers of little chambers, apparently reproducing the lodgings for the pilgrims, to whom in their sleep the god sent visions. At the end is the large semicircular niche of the sanctuary, on whose terrace, ornamented with fountains, porticoes, niches, and statues, was found the image of Serapis. Near by are the ruins of the Academy, of a monumental circular hall called the Temple of Apollo, and of the Odeum or third theatre, with considerable remains of both cavea and proscenium. There are also important remains of the Inferi or reproduction of the infernal regions, with a very long underground passage lighted by circular openings in the vault, and of the aqueduct which brought water from the Anio.

TLOS, Lycia, Asia Minor.

THEATRE, of large size and magnificent construction. The seats of the cavea are of polished marble, and every seat has a projecting cornice, which is often supported by lions' paws. There are many other important ruins, seemingly Roman in type but Greek in construction, and a most interesting necropolis, including tombs both of the wood architecture type, with panelling and other features peculiar to carpentry, and Ionic temple façades with sculptures in the pediments.

TODI, Umbria, Italy.

The ancient CITY WALLS are remarkable; they include three distinct circuits. The oldest parts are pre-Roman, built of large blocks and of the character of Etruscan walls, the newer parts in regular ashlar of travertine. There are considerable remains of a classical building, called locally the Temple of Mars; it is probably a basilica.

STA. MARIA DELLA CONSOLAZIONE, a small but interesting Renaissance church dating from the beginning of the XVI cent., and attributed to Bramante. Its plan is simple: a square of about 35 ft., bounded by four great round arches springing from rather slender piers faced with Doric pilasters, and bearing a high central dome and cupola raised on a drum with an order of thin coupled pilasters



Fig. 213.—Todi, Sta. Maria della Consolazione.

with single square windows in the intervals. From each side of the central square opens an apse, of which three are polygonal, and the remaining one circular, each lined with two stories of flat pilasters, and covered by a semi-dome which abuts against the attic of the central square. The drum is pierced by small square windows, above which runs a light entablature. The exterior corresponds exactly with the interior. The four apses are encircled by two orders of pilasters, the upper order having single square windows in the intervals. An attic with windows runs round the bases of the semi-domes. The drum of the central dome is surrounded at its base by a balustrade. (*See Fig. 213.*)

TORCELLO, Italy.

The CATHEDRAL (Sta. Maria) is the only remaining member of a group of churches, built shortly after the occupation of the island by the tribunes Arius and Arator. It is a basilica, following in a general way the Latin type, but varying from it in proportions and details. The exterior has been completely modernized, and shows only some remains of the original sculptural decoration about the principal western doorway, and in some fragments inserted in other portions of the wall. The interior, though restored during the present century with not very strict regard for the preservation of details, still retains substantially its ancient features. Its plan is that of a nave about 48 ft. broad, with two aisles about 25 ft., separated by eight columns on either side, of veined marble with Byzantine capitals of Corinthian form, carrying stilted round arches with a low clerestory above, pierced with round-arched windows. These windows are filled, as in the tribune of San Miniato at Florence, with slabs of alabaster divided into small circular panels so thin as to be translucent. The nave and aisles have only wooden roofs. Of the nine bays into which the nave is divided, the four eastern ones, used as the choir, are separated from the rest by a screen of



SIENA--INTERIOR OF THE CATHEDRAL





marble columns with a simple entablature, the openings, except that in the middle, being closed by an elaborate railing with various saints. These are presumably of nearly the same date with the church. The west wall is also covered with a



Fig. 214.—Torcello, Cathedral.

carved panels, evidently of Byzantine workmanship, answering to the *cancelli* of the older Latin basilicas. The marble pulpit stands in front of the screen, supported on columns, approached by a staircase. The nave and aisles each end in an eastern apse, the central tribune having still in the centre of its arc the high marble throne of the bishop, with its narrow stair enclosed by stone. Right and left of the throne the wall is lined with a double row of marble seats, rising in steps above the floor of the tribune, showing the characteristic imposing arrangement of an early Christian presbytery. The wall of the tribune is lined for half its height with slabs of veined marble. Above this is a border or frieze of mosaic in geometrical patterns, and the upper wall and the hemispherical vault are covered with mosaics representing the Saviour with the Virgin and apostles and mosaic of later date, probably of the XIII cent., divided into three subjects: the Crucifixion, the Descent into Hell, and the Last Judgment. There is also a large mosaic on the end wall of the south aisle, and the church still retains its ancient mosaic pavement in *opus Alexandrinum.* A small domed octagonal baptistery opens from the north aisle, but its decoration has quite disappeared. The church was preceded by an atrium, which was surrounded by galleries with columns supporting wooden architraves. Only the side next the church remains, forming a portico to the front. Of the square campanile at the N. W. angle of the church, only the lower portion still stands. The church, built about 641, was restored in 864, and again in 1008: the second restoration is by some authorities believed to have been practically a reconstruction. (*See Fig. 214.*)

STA. FOSCA. Of the two churches at

Torcello, this is much the more recent, yet there appears to be no certain record of its origin. It is first mentioned, according to Mothes, in a legal document of 1011. It is a Romanesque church of quite unusual plan and design. Its plan is that of an imperfectly developed Greek cross, with a large choir to the eastward. From a central space about 33 ft. square, of which the upper or clerestory walls are supported on each side by three round arches, the central arch much the largest, open to the west, north, and south three shallow arms of the cross, each in three bays corresponding to the three arches, the central bay barrel-vaulted, the side bays groined. On the fourth or eastern side the three arches open into the aisles of a deep choir, vaulted as in the other arms, and each aisle terminating in a round apse. The arches throughout the interior rest on columns of Greek marble with Corinthian capitals, probably taken from some older building. The square walls of the central portion support by means of double squinches in the angles a cylindrical drum which formerly carried a hemispherical dome. The dome has disappeared and the drum is covered by a simple conical wooden roof. On the exterior the arms of the cross on the west, north, and south show above the lower roofs in gabled roofs which abut against the drum of the dome. In each gable is a large semicircular window concentric with the vault. The church is enclosed in an arcade of stilted round arches supported on columns partly round and partly octagonal, with capitals of singular and uncouth design, which it is difficult to assign to any age or style. The angles of this arcade are truncated so as to make its plan octagonal, and its north side communicates with the atrium of the adjacent cathedral, of which this church is thought to have been the baptistery. The east end does not appear to have formed part of the original design, but is very similar in style to that of the neighboring church of Murano, which is nearly of the same date. The central apse is octagonal on the exterior, with coupled columns at the angles supporting blind arches. The arches are repeated in a second story, but without the columns, and above the upper arches is a frieze with red and yellow bricks in alternate upright triangles, surmounted by a decorated cornice of brick and stone.

TORREMARE. See *Metapontum*.

TOSCANELLA, Italy.

CATHEDRAL (S. Pietro), a Romanesque church of various periods up to the end of the XI cent., designed with great elegance, the exterior expressing accurately the interior arrangement. The façade is especially remarkable. It has a central division closing the end of the nave, containing a fine central doorway with a round arch under a deep moulded archivolt, marble columns in the jambs, and a tympanum ornamented with mosaics now much decayed. Over the doorway is a graceful gallery of twelve arches on small columns, flanked by griffins and crowned by a corbelled cornice. The remaining height is occupied by an extremely fine wheel-window in a square recess, with figures in relief at the four angles, and small two-light arched windows on each side. A narrow band of mosaic surrounds the wheel-window. The projecting central division terminates in a low pediment, and the angles of the walls below are emphasized by pilasters and engaged columns resting on animals. The side divisions, under low half-gables, follow the section of the interior aisles, and are covered with high arcades broken only by two rich round-arched doors. All the sculpture on this front is in white marble. The sides of the church are very plain. It is built on a hillside, the ground falling rapidly toward the east end, which is therefore very high, and buttressed with rude square projections.

The central apse shows first a high foundation wall below the floor of the crypt. Above this it is divided into three stages, the two lower decorated with pilasters and arched corbel-tables, the third stage occupied by a gallery of grouped arches between pilasters. The interior is simple; a lofty nave and low aisles separated by wide arches springing from massive columns of marble with semi-classic capitals, a square choir and three round apses with a high crypt beneath, the central apse decorated with frescoes dating from 1039 to 1090. The high altar is under a baldacchino with round arches on marble columns, and a pyramidal roof. The roofs are all open-timbered. A curious detail, perhaps unique, is the parapet between the columns each side the nave, indicating the provisions in the early Church for separating the sexes during the services. This church has undergone many changes and partial transformations. Its foundation goes back to the VII century. Later, probably, the imposing crypt was built to receive the bodies of three saints which were then brought to Toscanella. In 650 the church was so far advanced that the bishop's chair was brought hither from the neighboring but smaller church of Sta. Maria; but the building appears to have been finished in portions and at various dates, up to the middle of the XI cent., at which period the present front was built. The dedication was in 1090. (*See Fig. 215.*)



Fig. 215.—Toscanella, Cathedral.

STA. MARIA MAGGIORE, a Romanesque church of unusual design, much like the cathedral (*q. v.*), of basilican form, usually assigned to the VI cent., but belonging probably to the XI and XII. It has a façade of great elegance, in three divisions, the centre projecting slightly, with a fine round-arched doorway enriched by five columns on each side, decorated arch mouldings, and a tympanum with bas-reliefs. Above the doorway is a graceful arcaded gallery of marble, with a winged dragon in relief at either end, and above this again a fine rose-window.

The flat gable which formerly terminated this division has disappeared. The side divisions are simply the end walls of the aisles, each with a doorway similar to that of the centre but smaller, and each finishing with a low half-gable answering to the aisle roof. This front was formerly ornamented with paintings, now mostly obliterated. The interior has a nave and the choir by a single great round arch on each side, continuing the line of the nave arches. The main aisles open into this transept by a single round arch the whole width of the aisle. The aisle walls are ornamented by a blind arcade unsymmetrical with the nave arches. The roofs are all of wood, the nave roof being framed with simple tie-beam trusses resting on

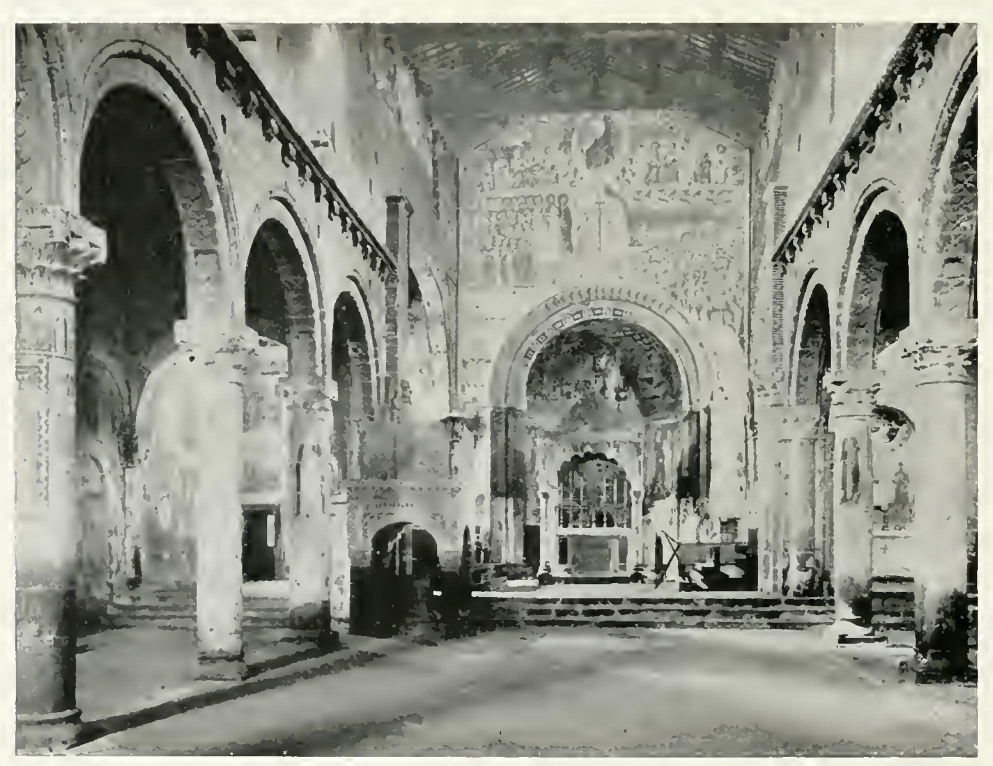


Fig. 216. Toscanella, Sta. Maria Maggiore.

aisles of five bays separated by round columns with capitals of quasi-Corinthian character, carrying large round arches with Gothic mouldings, and decorated soffits. A strong cornice supported on corbels of various design runs above these arches, and above this rises the clerestory wall pierced with round-arched windows, with a broad flat decoration carried round their heads. The choir aisles are in strictness transept arms, opening from corbels, with the purlins and rafters shown. The east wall of the choir above the apse, and the walls and hemispherical vault of the apse are covered with frescoes. The columns of the nave are also painted each with a full-length figure of a saint. There is a fine stone pulpit, raised high on four massive round arches with decorated archivolts and spandrels resting on strong round columns with large foliated capitals. The walls of the pulpit are dec-

orated with carved panels of various design, the whole composition being strongly Byzantine in character. The high altar in the apse is covered by a baldacchino with four round, many-cusped arches carried on four columns and covered by a pyramidal roof. The date of the original church cannot be stated with accuracy, but it was probably rebuilt about 1090. The central doorway dates from about 1120, and after various changes the church was finally reconsecrated in 1206. The square campanile which stands opposite the façade still remains unfinished. (*See Fig. 216.*)

Sta. Maria della Rosa (Sta. Maria Minore) is like S. M. Maggiore, but on a smaller scale. The façade, which dates from the end of the xi cent., has three round-arched doorways, and above them a rose-window and two pairs of twin windows. It has a nave and aisles separated by three pairs of great arches, carried on low columns, but no transept, and at present no apse.

TRALLES, Caria, Asia Minor.

The Theatre, in its present form, is of advanced Greek, or even Roman, date. It is supported against the slope of the Acropolis, somewhat high up; the stadium, whose axis is parallel with the stage structure, is lower on the slope and very close to the theatre. The latter was partially excavated in the autumn of 1888. The cavea faces S. W., and is in plan a semicircle extended by tangents at the extremities. The two wings were supported by retaining-walls, whose revetment is now gone. There were two *diazomata*, or horizontal passages of communication, to the higher of which there was access from the exterior on each side by a vaulted passage. The back of the cavea was bordered by a gallery, which was probably colonnaded. The lowest of the three sections was divided into eight wedges by nine *klimakes* or radial stairways. The few seats which have escaped the lime-burner are of white marble, with rounded edges and deeply concave moulded rise. The place for the feet, instead of being in the same block with the seat below, as is usual in Greece, is formed of a separate slab. The lowest tier of seats was a row of thrones, having backs and arms at the ends adjoining the stairways. In the middle of the row of thrones was either a box of honor or a basement of altar form. The orchestra is separated from the cavea by a passage in the form of a step, 3 ft. wide, below which it is bordered by a drainage channel of square section. It was presumably originally a circle, and floored with beaten earth and ashes, but as it now is, its diameter (to the channel) is 82 ft., and its depth 57½ ft., and it is paved with marble slabs and with the bedding of mortar where the slabs have been removed. An underground passage 2 ft. wide and having a depth of about 7 ft. beneath the pavement extends from the stage structure to the middle of the orchestra, where it branche in T form. This is as yet imperfectly explored, but is doubtless of the same nature as the similar passages discovered at Eretria and Sicyon. Though later, the stage structure consisted of a hall with a triple range of columns, of which those of the central row were formed of two semi-columns engaged in a rectangular pier. This singular disposition is still unexplained. Touching the bases of the front row of columns there was a massive wall, from the middle of which projected into the orchestra a double flight of steps traversed by a doorway, connecting the orchestra and the interior of the hall. The construction shows that the front wall cannot have been less than 10 ft. high, and the depth of the platform forming the roof of the hall was 18 ft. From these conditions, actors on the platform could be but very imperfectly seen by spectators in the lowest tiers, which is a strong argument in favor of Dr. Dörpfeld's theory that there was no raised stage. The face

of the wall of the hall was adorned with a frieze of Dionysiac subjects, about 3 ft. high, fragments of which have been found. It is probable that there were also two lateral doorways. The original parodoi of the theatre are closed in its present state.

TRANI, Italy.

The CATHEDRAL, dedicated to Sta. Maria Assunta and S. Niccolo Peregrino, and standing on a point of land nearly surrounded by the sea, is one of the most remarkable of the XI cent. monuments of southern Italy. It is a basilica whose internal length is about 180 ft., and its breadth 65 ft. The nave, about 120 ft. long, 30 ft. wide, and nearly 70 ft. high, is separated from the aisles by seven round arches on each side springing from coupled columns, with composite capitals and heavy abaci. The bays of the aisles are square and groined. Above the nave, on a light moulded string-course, is a fine triforium arcade of triple arches on colonnettes under plain round bearing-arches. These open into an upper aisle or women's gallery. The clerestory wall is pierced by single small round-headed windows, high up under the wooden ceiling. The interior is much injured by modern renovation. The nave opens by a single round arch into a broad rectangular transept projecting very slightly beyond the aisle walls, and of which the eastern wall is broken by a great semicircular apse, flanked by two small ones. A fine crypt or lower church extends under the transept and the whole nave, the two portions being separated by a solid wall with a single doorway in the middle, and the portion under the transept being lower by several steps. The whole space is divided by lines of columns into square groined bays, and lighted by large round-arched windows in the transept ends. The great central apse of the upper church is repeated in the crypt. The exterior is of great interest. The perfectly flat façade follows the interior section, its outline bordered by a continuous cornice moulding. The under church is so much above ground that it is entered by a door under a double staircase, which leads up to the main doorway. This doorway is a broad round arch, with heavy archivolts, the sculpture showing a mixture of Norman and Byzantine influence, and enclosing bronze doors of remarkable design by Barisanus of Trani, bearing the date 1173. It is flanked by a blind arcade of four round arches on each side crossing the front. High above this arcade is a round arched central window flanked by shafts on grotesque corbels carrying lions, between two smaller windows, and in the gable a great round window of which the



Fig. 217.—Trani, Cath., Doorway.

tracery has disappeared. Flush with this façade, at the south, is a fine square bell-tower, some 190 ft. high, with an increasing series of grouped windows in five stages, above a single high-pointed open arch, through which a street is carried. It finishes with an arched corbel-table and projecting cornice, above which is an octagonal lantern and a low spire. The flank walls are broken by well-marked buttresses, joined by blind arches with a small round-headed window in each. This arcade is continued with some variation round the transept, which has low gables with horizontal cornices, and under each a fine rose-window. The cathedral was begun near the end of the XI cent., on the site of an older church dedicated to St. John the Baptist. It was consecrated in 1143, but finished some years later. Portions of the front are believed to belong to the original church. (*See Fig. 217.*)

The OGNISSANTI (Church of All Saints), belongs to the period of the Lombard occupation of southern Italy, ascribed to the earlier half of the IX century. Its plan is a rectangle of about 70 ft. by 40 ft. One-third of the length is given to a fine open porch or narthex of the full breadth of the church, divided by round arches on columns into six equal square groined bays. From this porch lead three arched doorways with carved tympana. The east end of the church has three apses, of which the middle one has a beautiful sculptured frieze on corbels, and a large central window with a round archivolt springing from slender columns resting on lion corbels. Above the south apse rises a low tower. The interior consists of a flat-ceiled nave and groined aisles with three apses and no transept. It is divided by four somewhat stilted round arches on each side, resting on granite columns with Corinthian capitals, corresponding to half columns on the side walls.

STA. MARIA IMMACULATA, a small early XI cent. church of singularly Byzantine design, built on the ruins and preserving the disposition of an older church, probably of the IX century. Its plan is a rectangle about 52 ft. wide and 70 ft. long, containing the nave and aisles, with a choir projecting eastward measuring about 23 ft. square, and divided into nine bays by cross-arches resting on four grouped piers. Nave and transept rise above the rest in a cruciform roof with gables on all four sides, and the central dome rises higher, round within and octagonal without, but covered with a pyramidal roof. The ends of the nave are covered with flat domes, and the aisles with half barrel-vaults. The choir is a single square groined bay. The façade has a single door in the centre, with a round-arched window above flanked by columns, over which is a rose-window. An arched corbel-table follows the slope of the gable.

TRAÜ, Dalmatia.

The CATHEDRAL (Duomo) was built in a belated Romanesque style and mostly in the first half of the XIII cent., but not finished until the XVI. The plan is basilican, with nave and aisles of five bays ending in three eastern apses. The front contains, under and between its towers, a porch or narthex of the full width of nave and aisles. Its three bays have ribbed vaults, on round transverse arches and wall shafts. The great doorway entering the nave bears the date 1240. Its round arch encloses a tympanum sculptured with the Nativity. The square recesses of the archway are richly sculptured with figure subjects, and support a gabled and crocketted canopy. The doorway is the finest in Dalmatian architecture. The interior is small but high and massive, with a nave 25 ft. by 85 ft., and is 56 ft. high to the vertex of its transverse arches, the domical vaults rising considerably higher. Nave and aisle vaults are four-part. The transverse arches of the nave are pointed,

and spring with the diagonals from consoles carved with XV cent. Venetian foliage; elsewhere all the arches are round. The apses have half-domes. Round the main apse is a stone seat for the clergy, and over the altar a Romanesque baldacchino of the peculiar Dalmatian type. There are also an octagonal pulpit resembling the one at Spalato and a double row of XV cent. Venetian choir stalls. Of the two projected west towers, one was never built above the roof of the narthex, which divides the front at half height, and has above it a traceried rose-window under a gable. The other tower is carried up square, with a XV cent. belfry stage filled with Venetian tracery, and above it a second belfry of the XVI cent. crowned with a pyramidal spire. The gables, apses, and clerestory are corniced with round-arched corbel-tables, the aisles have a dwarf gallery under the eaves, and the walls have pilaster buttresses. A sacristy, baptistery, and two chapels adjoin the north aisle. The church was begun in 1200, on the site of an older one destroyed in the Saracen invasion. The walls were finished by the middle of the XIII cent., the vaults, it is reported, a century later; and an inscription dates the completion of the whole in 1595.

TREBIZOND (anc. Trapezos), Asia Minor.

The ORTA HISSAR, a mosque, called by the Greeks the Church of the Golden-headed Virgin, and once the cathedral, is a quasi-basilican church, about 60 ft. by 150 ft., with a central dome, a long nave and aisles, and short transept, and a very deep narthex across the west front. The deep sanctuary, or bema, and the aisles end in three apses, of which the middle one is octagonal outside and windowed. There is no women's gallery except over the narthex. In front of the narthex is an open arcaded porch, and a similar one precedes the north transept. The church was built by Alexis Comnenus (1081–1118), and contains his tomb, long posthumous; it is lined with whitewash, through which show some traces of its mosaic decoration.

STA. SOFIA, a Byzantine church of uncertain date but early style. It has the common arrangement of a central dome on pendentives carried by four columns, a lengthened nave, and short transept, all enclosed in a rectangular wall, with three eastern apses, the middle one rectangular outside. The drum of the dome is dodecagonal without and pierced with windows, and has a pyramidal roof. A deep narthex lies across the front, and an outer narthex has been added in front of this, and a similar porch in front of each transept end. These three porches are later in style than the rest, and have each a triple arch with columns, the central opening being pointed. The church has been turned into a mosque and plastered inside; but falling plaster has betrayed a mosaic of the emperor Alexis III., which must date from about 1200. There is a very handsome pavement of Alexandrine mosaic under the dome.

TRENT (Trento, Trient), Italy.

The CATHEDRAL is a late Romanesque church of much interest, on the border between Italy and Germany, and showing in its architecture the evidences of Lombard influence on the one hand, and the northern Romanesque on the other. It is cruciform, about 225 ft. long and 85 ft. broad, or 110 ft. across transept, with a nave and aisles of seven bays, the aisles of unusual height, separated by high and narrow round arches on clustered piers with vaulting-shafts. The vaults are all groined in narrow bays, and a modern octagonal lantern covers the crossing. The choir ends in an apse, and small apses open from the east wall of each transept. There is a gallery at the west end, approached by two picturesque staircases engaged in the aisle walls. Under the choir is a crypt, formerly opening into the nave

by arches, as at S. Miniato at Florence. From the south aisle opens the modern Chapel of the Cross, square, with octagonal dome and drum. The exterior is of white marble, the front flanked by two towers, only one of which is finished. The aisle walls have blind arcades under the eaves, which are also carried across the transept and round the apses. There are doorways in the east wall of both transept arms, the northerly one covered by an interesting projecting porch with columns of varied design, resting on one side on a lion, on the other side on a group of human figures, and supporting a stilted round arch, with a truncated gable surmounted by a crouching lion. The present church, dedicated to St. Vigilius, the early bishop of Trent, is the successor of various earlier churches on the same site. Its oldest parts, the abandoned crypt, etc., date perhaps from the building of Udalrich (1022), the principal structure from the XII cent. beginning with 1124.

TREVI (anc. Trebia). Italy.

Temple of Clitumnus, a beautiful monument of antiquity, though evidently, from its construction, not the original building of the time of Pliny, but a reconstruction, in great part carried out with the old materials, of the Antonine epoch, with later Christian restorations. In the V cent. the temple was dedicated as a church in honor of San Salvatore, and from this time date the sculptures of the pediments and the interior frieze of the cella, in which figures the Labarum of Constantine and bunches of grapes. The pedimented façade toward the river is 46 ft. high; it has four columns and two piers of Corinthian type, two of the columns, however, presenting spiral flutings, and two carved with scales. There is a chamber in the basement with an arched door, which may belong to Pliny's temple. The sculptures in the pediment at the back resemble the early Christian work at Ravenna.

TRIESTE (anc. Tergeste), Austria.

The Cathedral (S. Giusto) is an interesting conglomeration of old churches, making a mass about 125 ft. square. The exterior is rude and shapeless. Many fragments of a Roman building supposed to have been a temple of Jupiter are built into the front, which has a plain square campanile on the left or northern side. The doorway is an old tomb of the Barbii, mutilated. The interior consists of five aisles—more properly three naves and two aisles—with lateral chapels, and three apses at the east. The arcades of the great central nave do not correspond, being adapted to the lateral naves on each side, which were once independent churches. The northern nave was a plain basilica, flat roofed, with aisles and one apse, the southern a smaller cruciform church, with aisles, transept arm and three apses, and a domed intersection, its southern transept arm touching the south aisle of the basilica. Dr. Kandler, an archæologist of Trieste, who had deciphered the arrangement and sequence of the buildings, ascribes the northern church, known as Del Santissimo, to the IV cent., and the southern, S. Giusto, to the time of Justinian. Mr. Jackson relegates both to the IX or X century. Some time in the XIV, the adjacent aisles and the short intervening transept were pulled away, the nave of S. Giusto lengthened to match the other, and the space between, taken for a new principal nave, was extended eastward into a great apse, the naves of the original churches becoming its aisles. Both the original apses are lined with mosaics, those in the northern apse particularly rich and well preserved. The columns of the arcades are spoils of classic buildings of irregular height, crowned with debased classic capitals and carrying stilt-blocks for the arches. The principal nave has a great rose-window, which is the only ornament of the façade, and a wooden tie-beam roof; opening from the north aisle is the bap-

tistery, not a part of the original basilica ; the incomplete bell-tower bears date 1337.

TRIUMPHAL ARCH, in the Piazzetta di Riccardo, named from a doubtful tradition that Richard Cœur de Lion was confined there. It is undoubtedly Roman, though it has been contended that it was erected in honor of Charlemagne. It is a small single arch, with a Corinthian fluted pilaster on each side supporting an entablature, above which is a plain attic. It is engaged on one side in the wall of a house.

TROINA, Sicily.

The CATHEDRAL, or Matrice of Sta. Maria, is picturesquely situated on the edge of a high cliff. Troina was the first stronghold held by the Norman conquerors of Sicily, and the cathedral, built by Roger I., was finished in 1081. It has since been pretty much rebuilt, and is now a three-aisled cruciform church, with a nave of five bays, slightly projecting transept, and square-ended choir with two flanking chapels. The exterior is picturesque, the transept very high, and the crossing covered by a square tower. The front has a gable over an order of pilasters, and a massive square tower with gabled roof on the right flank. The style is mostly modern, but the walls of the east end are original, and so is the lower story of the tower with its open arches.



Fig. 218.—Troja Cathedral

TROJA, Italy.

The CATHEDRAL, dedicated to Sta. Maria Assunta, is in plan a well developed Latin cross, measuring in length about 180 ft., and 125 ft. across the transept. The nave and aisles are separated by seven round arches on each side, supported on high columns of granite with Corinthian capitals. The aisles are groined in square bays, but without transverse arches. There is no triforium : the clerestory is pierced by single small round-headed windows. The nave and transept are flat-ceiled. The crossing is an oblong about 26 ft. by 40 ft., bounded by a single high round arch on each side springing from compound piers. Each transept end has one narrow bay answering to the aisle, and a square bay beyond. The choir is a single square groined bay with narrow aisles on each side, and ends in a semicircular apse. The exterior is most interesting. The façade is in two distinct stages. The lower is raised on a high basement, and consists of a blind arcade of seven high round arches springing from flat pilasters with Corinthian capitals. The arches have their spandrels and tympana decorated with a simple mosaic, and enclose alternately a lozenge and a circle. The

whole arcade shows plainly the Pisan influence. The centre arch, twice as wide as the others, encloses a square doorway with flat pilasters and horizontal lintel enriched with reliefs, and a round bearing-arch over it with plain tympanum. The opening is closed by a pair of remarkable bronze doors with decoration in niello, dating from 1119. The lower story is capped by a heavy cornice of classic detail, much decorated. The second is divided into three compartments answering to nave and aisles, by coupled columns resting on lions, carrying one broad arch the full breadth of the nave, covered by a low gable and filled with a great wheel-window about 20 ft. across, the upper half enclosed by a broad sculptured archivolt. High half gables simulate the aisles. On the flanks of the church the blind arcade and cornice of the front are continued, the arch heads and spandrels filled with reliefs and varying patterns in mosaic. One arch encloses a doorway like that of the front but smaller; others contain single-arched aisle windows. The clerestory has a blind arcade of round arches on engaged columns, with voussoirs of black and white stone, simple round-headed windows in alternate arches. The transept ends are modernized. The east end is a flat wall with three projecting apses. The cathedral, founded early in the XI cent., was partially burned in 1097 and much enlarged in its rebuilding. (*See Fig. 218.*)

TROY. See *Ilion.*

TRYSA. See *Gjölbaschi.*

TURIN (Torino), Italy.

The PALAZZO MADAMA DELLE TORRI contains the most notable of the few remains of Roman building in Turin, embodying, though in a much altered form, the ancient Porta Palatina. In its present condition the building presents a façade about 114 ft. in length, with two polygonal flanking towers of mediæval construction nearly 80 ft. high, pierced by four stories of simple round-arched windows, and terminating in bold arched corbel-tables and forked battlements. The towers are joined by a lower wall in three stories, the first of plain masonry pierced by the entrance-arch, the second and third having each an order of pilasters with simple moulded capitals. In the second story the intervals are occupied by large round-arched windows, in the third by square windows with small pilasters, carrying an entablature. The palace is said to have been successively the residence of Charlemagne, Charles the Bald, and Charles the Fat, and



Fig. 219.—Turin, Palazzo Madama delle Torri.

it is conjectured to be the work of the Lombard king Desiderius, though some authorities remand it even to Roman times. The upper parts at least of the sixteen-sided towers, with machicolated cornices and forked battlements, are medi-



Fig. 220.—Turin, La Superga.

æval. In 1718 the royal widow (Madama Reale), mother of Victor Amadeus II., rebuilt, or added, the western half of the palace, of which the conspicuous part is the façade of Juvara—a rustic basement, with a great order of Corinthian pilasters above it covering the principal story and a mezzanine, supporting a high attic. A double outside stairway in baroco style leads up to the principal entrance. (*See Fig. 219.*)

La Superga, the royal burial-church and convent, lies about three miles east from Turin. It is the chief work of Juvara, built in 1717–1730 for Vittore Amadeo II., as a votive church. The buildings of the convent form a quadrangle lined with a cloister, at one end of which stands the imposing church, a round aisle enclosing an octagonal nave, which is crowned by a high dome on a circular drum. It is faced on the outside by a great order of composite pilasters, covering two stories of windows and niches; and on each side a broad wing, hiding the many-storied palatial architecture of the convent, supports a tall rococo tower, with an open belfry and bulbous spire. A broad walled terrace encircles the church, and the great order is extended in front into a deep tetrastyle portico. An upper order of pilasters surrounds the drum of the dome, broken forward in coupled columns between the round-arched windows; and the ribbed dome is crowned by a rococo lantern. Within, a ring of square chapels surrounds the nave, and an order of eight great columns supports the drum. (*See Figs. 220, 221.*)

TURMANIN near Aleppo, Syria.

The Church is in some respects very like that at Kalb Luzek (*q. v.*), though

simpler in detail. It is a basilica of 60 ft. by 120 ft., its nave and aisles separated by two arcades of seven arches borne by columns. At the west entrance is an open porch between two three-story towers, entered through a wide arch. Over this a colonnaded loggia fronted the end of the nave, which is pierced by a great triple-shafted window. At the east end a broad polygonal apse is recessed between two half gables that cover the ends of the aisles, containing the two chambers that in these churches usually flank the apse. On the sides the aisle windows are in groups of twos and threes, separated by two doors in each aisle. The gabled roof is gone, but the trusses apparently bore on corbelled shafts, as at Kalat Siman and Kalb Luzeh. The stone-cutting of the church is

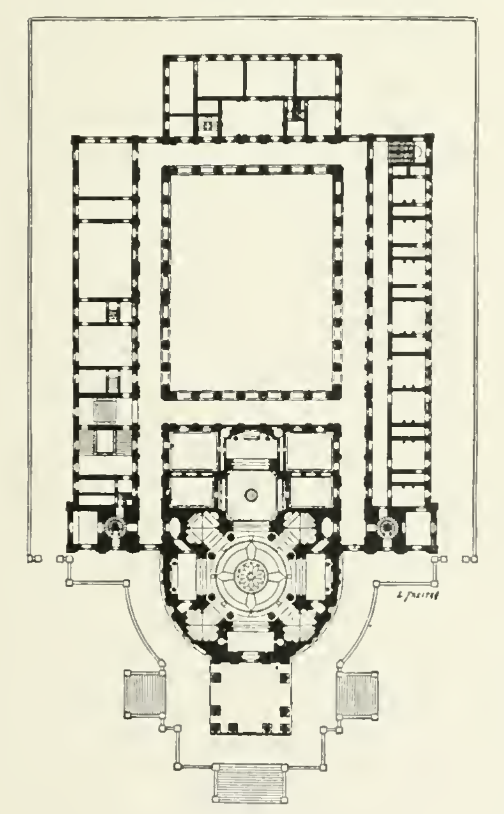


Fig. 221.—Turin, La Superga.

admirable, the detail refined and abundantly decorated with carving. It seems to date from the VI cent., and suggests the prototypes of many of the forms of Romanesque churches. Close to the church is a ruined building consisting of a great hall in each of two stories, 40 ft. by 76 ft., surrounded by two stories of porticoes built of great monolithic pilasters. About it are remains of smaller buildings, one a double tomb, and it is thought by De Vogüé to have been a hostelry attached to the church.

TUSCULUM. See *Frascati*.

TYNDARIS, Sicily.

GYMNASIUM(?), a large structure with two fine stone arches, lying southeast of the theatre, believed to be identical with that mentioned by Cicero. It is rectangular in plan and the masonry is very fine.

THEATRE, of Greek foundation, but altered, especially about the stage-structure, under the Romans. The cavea is excavated in the slope of a hill looking toward the sea. The plan is a semicircle: the exterior diameter is 223 ft., that of the orchestra, 82 ft. The masonry is entirely in excellent ashlar of sandstone, except the remains of the Roman proscenium, which is built of brick. The cavea is divided by radial stairs into nine cunei, or wedge-shaped sections.

TYRE (Sûr), Phœnicia, Syria.

RAMPARTS of the city, which according to Arrian were about 147 ft. high. There are but very scanty remains in masonry of rectangular blocks of astonishing size.

The TOMB OF HIRAM, so called, S. E. of the city, consists of a base of huge blocks, each about 13 ft. by 9 ft. by 2 ft., supporting a great slab which overhangs on all sides and supports a massive sarcophagus with a cover of pyramidal form. The total height is about 20 ft. Beneath the monument there is a rock-chamber, to which a flight of steps gives access. The date of the tomb is uncertain, but is probably prior to the Roman domination.

UDINE. Italy.

The CATHEDRAL is a Gothic building of the XIV cent., which has been almost entirely rebuilt, with little regard for the original style. The façade and the great tower on the north side still remain as first built. The former is in five divisions answering to the nave and two aisles on either side. The centre division has a doorway with a crocketed and pinnacled gable and much sculpture. A line of brick arches crosses the front above this doorway, interrupted by two round windows, and above this again is a central round window lighting the nave. The roof gable is broken at each division, the pitch being everywhere the same. The great octagonal tower at the junction of the north transept with the choir has a diameter of 50 ft., with a lower story of stone, the remainder being of brick and unfinished. The cathedral is said to have been built by Pietro Paolo delle Masegne, who was called from Venice for the purpose in 1366.

PALAZZO PUBBLICO (Town-hall), a very perfectly preserved example of the *broletto* or town-hall of northern Italy, and remarkable for the closeness with which its designer followed the Venetian manner. It is a small rectangular building of two stories, covering an open platform, raised by several steps above the street and surrounded by a balustrade, which served as the public exchange. The first story consists of an open arcade with ten pointed arches on the front, and five on the side, carried on round columns with richly sculptured capitals, the voussoirs alternately of red and white or gray marble. The columns are set on a stylobate and connected by a beautiful balustrade of colonnettes with small cusped arches. This story is divided by a row of columns and arches supporting the second floor without vaulting. The second story presents a flat wall of alternate courses of red and white marble, with three groups of windows in the front, the central group of five openings, the side groups of three, the openings pointed and delicately cusped, and the whole group enclosed in a square panel in the style of the Venetian palaces. The central group opens on a balcony from which the magistrates addressed the people. The cornice is modern. The building dates from the XV century.

URBINO, Italy.

The CATHEDRAL, adjacent to the Ducal Palace, was built at nearly the same time in the XV cent., under Baccio Pintelli. It is a Renaissance church, cruciform, with a broad nave and narrow aisles separated by four piers on each side, a projecting transept of the same breadth as the nave, and a large rectangular choir with a long chapel on either side. Shallow apsidal recesses serve for chapels along the aisles, and similar recesses terminate the transept arms and the choir. The crossing is covered by a round dome.

The DUCAL PALACE, built by Duke Frederic II. during the latter half of the XV cent., chiefly from the designs of a Dalmatian architect, Luciano di Laurana, but finished under Baccio Pintelli, is one of the most notable examples of the cinque-cento style, applied to domestic architecture. It is built on a hillside, and its lower portions are built up from a series of battering arcades. The buildings cover a rectangular area of about 175 ft. by 300 ft., with a wing of irregular shape thrown out obliquely from its northern end. The great courtyard, nearly 80 ft. square, is enclosed on the lower floor by an open vaulted arcade of round arches on composite columns, over which is an order of Corinthian pilasters, with square windows with simple dressings in the intervals. The principal rooms, all vaulted, are for the most part richly decorated with paintings and bas-reliefs; especially the great hall, 43 ft. wide and 110 ft. long. There is an arcaded vestibule and an entrance-hall with two richly sculptured fireplaces.

The doors and windows, pilasters, and cornices, and other features, are elaborately enriched with arabesque carvings, mostly by Francesco di Giorgio of Siena, and Ambrogio Baroccio. The exterior is somewhat uninteresting, the only striking



Fig. 222.—Urbino, Pal. Ducale.

portion being in the centre of the long façade, where a section of wall is enclosed between two older flanking round towers with corbelled parapets and conical roofs, the centre of the wall being occupied by three open loggias, one above another, with pilasters and entablatures and balustrades. Most of the windows are square openings with pilasters supporting a heavy entablature. The cornices are light and surmounted by balustrades. (*See Fig.* 222.)

VALETTA, Malta.

The Church of St. John, built by the great order of the Knights of Malta, was begun in 1573 from the designs of a certain Girolamo. Its plan is a rectangle about 187 ft. long by 118 ft. wide, with a nave about 50 ft. wide bordered on each side by an arcade of five broad and high arches springing from great square piers, faced with an irregular order of pilasters from whose cornice springs the slightly pointed barrel-vault of the nave, each bay of which is pierced by a single round window. The aisles are divided into square chapels connected by narrow doors. The choir, occupying the two easternmost bays of the nave, is raised by four steps, and furnished with richly carved stalls, and the eastern wall is flat. The interior is very richly decorated with paintings and bas reliefs, and costly marbles line the walls. The pavement is made up of nearly four hundred sepulchral slabs of various marbles covering the graves of the knights. On the two flanks are a sacristy, an oratory, and various subsidiary apartments, and on the south a rectangular Campo Santo or cemetery. The façade has a central doorway between four niches, and is flanked by two angle towers. The church was built under successive grand masters of the order, and paid for by the fees of the knights. Since the practical extinction of the order it has been a cathedral church, the property of the government.

VALVISCIOLO, Italy.

A Monastery of the Cistercian order founded by a colony of monks from the great monastery of Fossanova (*q. v.*), in 1151. The monastic buildings remain almost intact from this period, and are of extreme interest because their style is midway between the plain Romanesque tunnel-vaulted style of the first half of the XII cent., as exemplified at SS. Vincenzo ed Anastasio in Rome, and the early Gothic style which appears in the Cistercian monasteries erected in this province after 1175. The church is a simple basilica consisting of a nave and two aisles composed of five bays, each ending in a square apsidal chapel. The measurements are: length, 150 ft.; width, 58 ft.; width of nave, 25 ft.; do. of aisles, 13 ft. There being no transept, the usual two chapels on

each side of the apse are reduced to one; a deviation from the usual Cistercian habit in the direction of a type used for monasteries of lesser size. The arches of the nave are pointed, broad and low, and entirely without moulding. The vaulting compartments are slightly oblong, in the nave across the axis, and in the aisles along the axis, of the church. The four heavy piers of the nave are square and low, and are divided from the massive arches merely by a cyma recta moulding. On this rests a corbel from which springs a plain pilaster on whose capital rests the transverse arch between the bays. Each bay is covered with a groined vault and lighted by a round-headed window. The church is entirely built of local stone. In style it is unlike anything in Italy; a few churches, built also by Cistercians, may be compared to it: such is Sta. Maria de Flumine near Ceccano (*q. v.*). The cloister is slightly posterior to the church, the foliated Gothic capitals of its colonnettes show that it cannot have been built much before 1200 at the earliest; probably later. It measures 65 ft. each way, and each of the four sides is divided into five bays with groin vaults and transverse arches. The heavy piers which divide these bays and support their vaults enclose a series of round arches supported on coupled colonnettes with simple slender shafts, and elegant bell-shaped foliated capitals of early Gothic design. Opening out of the east side of the cloister, as usual, is the chapter-house, 32 ft. square, covered by six groined vaults supported on slender shafts. In style it is contemporary with the church and earlier than the cloister. The refectory occupies all the south side of the quadrangle except a vaulted passage leading out to the garden. It is of considerable size (55 ft. by 30 ft.) and height, its ribbed groin-vaults are remarkably bold and broad, and give an idea of simple architectural grandeur that makes this the finest refectory of the Cistercian monasteries in Italy. A comparison with the refectories and chapter-houses of Casamari and Fossanova makes it probable that the chapter-house at Valvisciolo was built between 1170 and 1180, and the refectory in the decade before 1200. [A. L. F., Jr.]

VAPHIO, near Amyklai, Laconia, Greece.

Beehive or tholos TOMB of the character of those at Mycenæ, excavated in 1889 on the right bank of the Eurotas. The *dromos* or passage of approach is nearly 100 ft. long, the diameter of the tomb about 39 ft. The ornaments, utensils, and weapons of gold, silver, and bronze found in this tomb are of great richness, and form an important addition to the knowledge of Mycenæan civilization acquired at other sites.

VEGLIA, Dalmatia.

The CATHEDRAL is a basilica with side aisles, and a nave of 90 ft. by 22 ft. in nine bays. Stilted round-arched arcades are carried on antique shafts of irregular heights which are pieced out by capitals of Byzantine form, apparently of the XII century. An inscription declares that the church was built by a Bishop John, and there was such a bishop from 1186 to 1188. The old east end, probably apsidal, was burned in the last century, and a new choir consecrated in 1743. This has two handsome ambones, probably earlier (XVI century). In the north aisle is a Gothic chapel, said to be built by a Count Frangipanni, who died near 1405. Over a side altar is very rich reredos of silver, parcel-gilt. It contains twenty-six niches in two tiers, filled with figures of saints, and bordered with rich ornament, and dates apparently from the XV century. There are fine silversmiths' work and embroidery in the treasury.

S. QUIRINO, attached at right angles to the west end of the cathedral, is said to have been the original cathedral. It is a double church, in two stories, with nave and aisles to each, and three apses at the southern end. The lower church is very

plain, and now used as a wine vault: the upper one carries its round-arched arcades on columns with cushion-capitals. It has been much changed by modern restorations. Its campanile is modern in its upper story and bulbous dome.

VENICE (Venezia, Venedig), Italy.

ACCADEMIA di Belle Arti (Academy of Fine Arts). The ancient convent of La Carità, of which a portion was built by Palladio in 1552, consisted of two courts, a larger and a smaller, with their surrounding buildings, including a church. These were mostly destroyed by fire in 1630. The portions which remained, with the buildings erected on the ruins, are now occupied by the galleries of pictures and other works of art. The smaller of the two courts, now destroyed, was flanked by four great Corinthian columns on each side, nearly 40 ft. high, behind which were buildings one of which was occupied as the sacristy of the church. From this fore-court the great cloister was entered. Some portion of the original work still stands, and is surrounded by the building of the Academy. It is three stories in height, each with an order of columns, Doric in the first story, Ionic and Corinthian above, the two lower enclosing the round arches of open vaulted galleries, the upper columns engaged, and backed by a wall with square windows in the intervals. The exterior is quite plain, with square windows without decoration, and with broad belts separating the stories.

ANNUNZIATA. See *Sta. Maria Zobenigo.*

The BRIDGE OF SIGHS connects the upper stories of the Ducal Palace and the building on the opposite side of the small canal called the Rio del Palazzo, which contains the prisons of state, but it has no architectural relation to either building. The bridge consists of an elliptical arch some 30 ft. above the water, with a moulded archivolt decorated with heads, the spandrels with reclining figures in relief, above which is a horizontal cornice supporting an order of rustic pilasters with five intervals, occupied by square-headed windows and panels. The whole is crowned by a heavy segmental pediment with a figure of Justice seated between lions. The bridge was built in 1597 by Antonio Contini, and has been made famous in literature.

CA' D'ORO, built probably in the latter half of the XIV cent., one of the best known of the palaces of the Grand Canal and probably the richest example of the domestic Gothic of Venice. The façade appears to have been designed in accordance with the almost invariable convention of the Venetian palaces, a centre and two wings; but in that case only one of the wings was built. The whole front of three stories is about 70 ft. long, of which what we may call the centre, occupying about 40 ft., is recessed behind open loggias. That of the first story has five arches, the middle one round, the others pointed, all surrounded by the

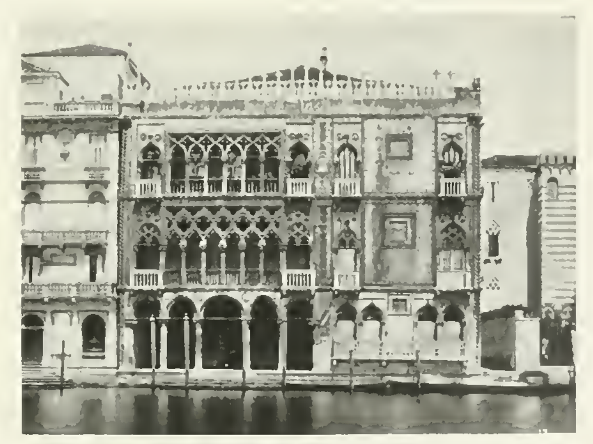


Fig. 223.—Venice, Ca' d'Oro.

usual Venetian billet-moulding. The spandrels are decorated with disks of colored marble. In the second and third

stories the arcades are of six pointed and cusped arches bearing the peculiar Venetian tracery imitated from the Ducal Palace, of cusped quatrefoils, round in the second story and pointed in the third. These arcades rest on marble columns with balustrades between and beautifully designed capitals, and are flanked by larger single arches with ogee heads, traceried in the second story, simply cusped in the third. These four arches have single projecting balconies of the usual Venetian Gothic form. The wing has in the first story two double arched windows with cusped ogee heads, joined by a long balcony: in the second and third stories is a panelled wall between two pointed balconied windows in each story. The windows as well as the arcades are all enclosed in square panels. The stories are divided by richly decorated string-courses, the angles are emphasized by twisted shafts. The front, with new cornice, is crowned by a parapet composed of flat plates of marble, alternately high and low, in the shape of an Iona cross. The whole front is faced with thin plates of marble, and its ornamentation belongs to various periods, the palace itself having been built about 1400. It was extensively restored about 1850 by the famous dancer Taglioni, who lived in it. (*See Fig. 223.*)

The Campanile of St. Mark's stands detached in the Piazza San Marco, in front of the church. It is a tower about 42 ft. square, built of simple brickwork to a height of 160 ft. above the pavement, the wall broken only by pilaster-strips, joined by round arches enclosing a shell-like decoration. This mediæval portion of the tower was complete as early as 1150. The belfry which crowned it was repeatedly destroyed by fire and rebuilt, until in 1510 the tower was finished in its present form by Bartolomeo Buon. The present belfry consists of four round arches on each face supported on small columns, enclosed between strong angle-pilasters and surmounted by a heavy entablature. Above this is a high square pedestal crowned by



Fig. 224.—Venice, Library, and Loggia of Campanile.

a pyramidal spire, the whole height being about 320 ft. The belfry is reached by a continuous inclined plane of very gradual slope, between inner and outer walls, and lighted by a line of small round-headed windows in each face of the tower. At the foot of the tower, on the side facing the church, is the sumptuous Loggietta, begun in 1540 from the designs of Sansovino, at first intended simply as a meeting place for the nobles, but serving later as an office or waiting-room for the procurator having charge of the palace guard. It consists of an order of Composite columns on high pedestals, standing forward in couples under a very high attic crowned by a balustrade, each couple enclosing a niche occupied by a statue. The statues, four in number and of bronze, are by Sansovino, representing Pallas, Apollo, Mercury, and Peace, and are admirable works. Between the couples are round-arched double doors, with figures in the spandrels. The high attic is divided by pilasters into spaces corresponding with those below and filled with spirited bas-reliefs in marble. In front is a raised terrace enclosed by an open balustrade, the entrance protected by a beautiful bronze gate cast by Antonio Gai in 1750. (*See Figs. 224, 235.*)

La Carità. See *L'Accademia.*

The Dogana di Mare is a picturesque object in a conspicuous position, at the entrance of the Grand Canal. It is a Renaissance building, built in 1682 from the designs of Benoni, of a single story consisting of a rustic arcade of narrow arches on plain square piers surmounted by a simple cornice and balustrade. At the angle of the canal is a low square tower in two stages, with a projecting portico of rustic Doric columns on each face, and above, a plain story with rustic quoins and square-headed windows crowned by a pedestal and a globe sustained by two Atlases, bearing a gilded figure of Fortune, which turns appropriately with the wind. This building is the custom house.

Doges' (or Ducal) Palace. See *Palazzo Ducale.*

Fabbrica Nuova (the New Building). The westerly end of the Piazza S. Marco was formerly occupied by wings of the Procuratie Vecchie on the north, and the Procuratie Nuove on the south side. Between these two stood the church of S. Gemignano, built from the designs of Sansovino. During the French occupation of Venice this church was taken down to make way for an extension of the royal palace, which occupied the Procuratie Nuove. In its place the present building was erected by the architect Giuseppi Soli. There are two stories; the first is partly open, forming a central entrance to the Piazza, with lines of columns supporting the stories above. The façade on the Piazza is substantially a continuation of the design of the adjoining building on the south, with the addition of a high attic decorated with reliefs and statues on pedestals. The rear façade is different, the lower story composed of rustic arches on piers, the second of an order of Corinthian pilasters, with an attic; the intervals occupied by square Italian windows with horizontal caps. (*See Fig. 235.*)

La Fenice (Phœnix), one of the most celebrated of Italian theatres, was built originally in 1790 from the designs of Selva, and rebuilt after a partial destruction by fire in 1829. It has two façades, one on the Piazza, or Campo, S. Fantino, and the other on the small canal at the opposite end of the buildings. The former is about 65 ft. long, in three stages, with a projecting portico of four Corinthian columns in front of a recessed vestibule, above which is a central arch flanked by niches with statues. The rear façade is a high plain wall with pedimented windows and Doric cornice over a rustic arcade. The auditorium, with its surrounding corridor, is comprised within a rectangle of about 93 ft. by 85 ft., to which the only approach is by two passages leading from

two sides of the theatre and meeting at a corner of the surrounding corridor. The plan of the auditorium is that of an elongated horseshoe, surrounded by five tiers of boxes and covered by a flat dome about 50 ft. above the floor. Its diameter, exclusive of the boxes, is about 60 ft.; the distance from the curtain to the front of the boxes, 68 ft. The capacity of the theatre is three thousand. The breadth of the curtain opening is about 45 ft.; the depth of the stage about 60 ft. Two tolerably commodious staircases at the angles of the corridor give communication between the various tiers, and from the corridor in the rear of the auditorium a double stair leads to a decorated *foyer*.

The FONDACO DEI TEDESCHI was one of the buildings, which at an early period of the commercial prosperity of Venice the Republic provided, to serve as storehouses and lodgings for the great numbers of foreign traders who frequented the city. It was burned in 1505, and was replaced by the present structure, a square of about 160 ft. on the Grand Canal, with an interior court about 60 ft. square. The façade on the canal is of very simple design, in four stories, the first story having in the centre a recessed porch of five round arches on square pilasters, above which the whole centre is slightly recessed, with coupled windows in each story, those of the second story arched. The thin cornice has a singular battlement of detached square pedestals, each carrying a sort of finial. The interior court has an open arcade on the first story, and above it three similar stories of round-arched windows. Fra Giovanni Giocondo, of Verona, has been called the architect of the building, but documents seem to show that it was the work of a German called Hieronymus, or Girolamo Tedesco.

FONDACO DEI TURCHI, a typical example of the early Byzantine palaces of Venice. Its exact age and origin are unknown; but it is presumed to date from the X or XI century. It was long the property of the dukes of Ferrara, and was purchased of them in 1621, and devoted to the purposes of an exchange or warehouse for the use of the Turkish merchants who frequented Venice in great numbers. The building had in the present century, through long neglect and the slightness of its construction, fallen into hopeless decay, and was only saved from destruction by a complete restoration in 1869. The front on the Grand Canal, the only portion remaining of the original palace, which was much more extensive, is about 160 ft. long, built of brick faced with thin slabs of marble, and consists of a central portion with two stories of long open arcades, flanked by two square pavilions three stories in height, but without projection from the main line of the front. The lower arcade, close to the level of the water, has ten stilted round arches resting on marble columns with large foliated capitals. The arches are surrounded by a flat band of colored marble, enclosed by a delicate dog-tooth ornament both on the outside and inside, and with small roundels of marble in the spandrels with figures in bas-relief of animals, etc. The upper arcade has eighteen arches, like those below in form and treatment, and with similar roundels in the spandrels. A balustrade of delicate colonnettes with arches fills the intervals between the columns. The cornice is small and simple, and above it is a series of nine gables, like dormer-fronts, connected by small open arches, and each panelled with white or colored marble. The flanking pavilions have arched windows in each story, with panels decorated in relief, in the third story by a light open balustrade. Above the second story arches is a sculptured frieze of round-headed panels of white marble, surrounded by bands of colored marble, edged with dog-tooth ornament. This decoration was probably continued originally throughout the whole length of

the second story frieze, and is one of the most characteristic features of Byzantine ornament.

FRARI. See *Sta. Maria Gloriosa.*

GESUITI. See *Sta. Maria dei Gesuiti.*

The LIBRARY OF ST. MARK, one of the most celebrated and familiar of all the buildings of the Italian Renaissance, and commonly regarded as the greatest work of its architect, Sansovino. It occupies one of the most conspicuous sites in Venice, on the west side of the Piazzetta, over against the Ducal Palace, with a front on the Piazzetta of about 207 ft., and toward the sea and the Piazza of about 50 ft. It is of two stories, each with an order of engaged columns, Roman Doric in the first story, Ionic in the second, the angles strengthened by pilasters. In each the intercolumniations are filled by round arches, those of the lower story open and springing from simple pilasters with moulded imposts, those of the second story from coupled Ionic columns, detached and bearing an entablature which forms the impost of the arch. In both stories the arches have panelled soffits, keystones sculptured with heads of men and beasts, and reclining figures in the spandrels. The upper order stands on a balustrade-course, and in both orders the frieze is of unusual height and decorated with sculpture, the metopes of the lower being charged alternately with medallions and emblematic devices. The upper entablature is developed to such an extent—being proportioned as a crowning feature of the whole façade rather than of its own order—that its height is nearly two-thirds that of the column, and its frieze contains flat windows enclosed in a frame of mouldings with its spaces between profusely decorated with festoons of flowers and fruit held by figures of children. The building is crowned by a high balustrade of which the pedestals carry statues, except those over the angles, which support tall obelisks. In the centre of the lower arcade on the Piazzetta an arched doorway flanked by caryatids opens into an imposing double staircase leading to the second story, containing several halls, of which the principal, formerly containing the library, occupies the northern third of the building, and has a fine vaulted ceiling painted by Tintoret and Paul Veronese. The books were removed in 1812 to the Ducal Palace, and the whole building now forms a part of the royal palace. It was begun in 1536 by Sansovino, and finished after his death, but in accordance with his designs, by Scamozzi in 1582. (*See Figs. 224, 235.*)

MADONNA DEI MIRACOLI. See *Sta. Maria dei Miracoli.*

MADONNA DEL ORTO, a late Gothic church of brick with a singular and rather interesting façade, containing an arched doorway with a crocketed ogee gable, pinnacled with statues. Over the doorway is a large rose-window from which the tracery has disappeared, and at the sides are two beautiful four-light windows, one in the end of each aisle, the shafted mullions crossed by transoms. The rich gable cornice of the nave is surmounted by canopied pinnacles bearing statues, while the aisles are crowned by a sloping parapet above the cornice, consisting of a line of pointed and cusped niches with statues. On the south wall is a tall square brick campanile with a round cupola above the belfry stage, surmounted by a high round dome. The interior, lately restored, has pointed nave arches resting on marble columns with XIV cent. capitals, and a flat wooden ceiling decorated with color and gilding. The church dates from the end of the XIV cent., and contains several important pictures of Tintoret, John Bellini, Cima da Conegliano, and other masters.

MINT. See *Zecca.*

PALAZZO DELL' AMBASCIATORE, a XIV cent. Gothic palace, of which the front is of brick in three stages of nearly equal height, with a high stone basement, square angle quoins, and twisted angle shafts with

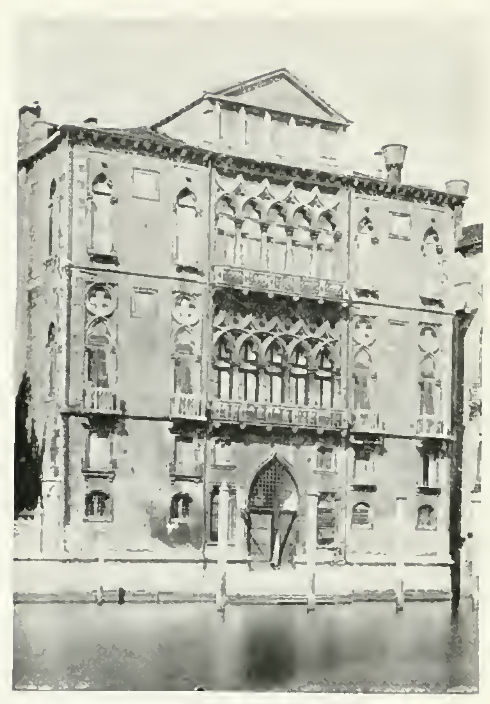


Fig. 225.—Venice, Palazzo Cavalli.

bases and capitals, and decorated string-courses. In the centre of the lower stage is an ogee-arched doorway and on either side of it two stories of windows, the lower segmental-arched, the upper square. The second and third stories have central arcades of cusped ogee arches, those of the second story with quatrefoils above, and on each side two single windows with ogee heads and pilasters in the jambs. All the windows of the second and third stories, as well as the arcades, are enclosed in squared panels formed by a thin line of billet moulding. In each side of the second story stands a decorated niche containing a statue of a knight.

Palazzo Badoer Participazio, an interesting though much dilapidated XIV cent. Gothic palace. Its large brick front is in four stories, with its openings disposed without regard for symmetry, and with much decoration of an unusual character. The square doorway is enclosed by flat architraves of marble, and small windows are irregularly disposed on either side. The second story has the central arcade of five cusped pointed arches with slightly ogee heads, divided by columns, and enclosed in a square panel. Over the centre of the panel is a cusped arch enclosing an inlay in marbles of various colors, with a medallion bearing a peacock in relief. In the third story is a similar arcade without finials or tracery, and with a small Venetian balustrade running between columns of the three middle arches. The billet moulding is used as a border everywhere. Broad bands of marble with arabesques surround the detached windows, and serve as string-courses and as a frieze under the cornice. This building is perhaps the only one in Venice where such a decoration is to be found, and some traces of later painted decoration are to be seen on the walls. (Recently restored and altered.)

Palazzo Bianca Capello. See *Palazzo Trevisan.*

Palazzo Camerlinghi, an early Renaissance palace on the Grand Canal, at the end of the bridge of the Rialto, built about 1525 from the designs of Bergamasco. It has three façades of Istrian marble, of which the principal one on the canal has a breadth of about 68 ft., in three stages, the angles marked by coupled pilasters, with a single window in the interval, and carrying entablatures which cross the front. The first stage has an arched doorway in a small engaged portico of two Corinthian columns on pedestals, flanked by two tiers of plain windows. The two upper stories alike have round-arched windows arranged in groups; and the front is crowned with a meagre cornice.

Palazzo Cavalli, a XV cent. Gothic palace, much like the Palazzo dell' Ambasciatore in the arrangement of its façade, which is in three stories and in three nearly equal vertical divisions, the wings being almost as broad as the centre. In the second and third stories the centre is filled

with a continuous mass of tracery consisting of an arcade of five pointed arches in each, interlocking with circles and quatrefoils above them, that in the second story modelled on that of the Ducal Palace. Below is a broad ogee-arched doorway flanked by two half stories of windows. The wings make an effective contrast to the centre, the plain wall of each being pierced in each story by a pair of windows matching those of the centre and enclosed in squared panels. A plain broad modern dormer surmounts the centre. (*See Fig. 225.*)

Palazzo Cicogna (or Pasqualigo), a small palace dating from about the end of the XIV cent., and interesting from the peculiar tracery of its front, but nearly in ruins. The façade is in two stories—the lower has as a central feature an arcade of four round arches on columns, with a balustrade between them. At the left of the arcade is a broad square opening reaching to the angle of the front, where the upper wall is supported on a stout column with a foliated capital. At the right is a sort of wing with two single windows. The second story is filled to the cornice with an arcade of six pointed openings of unusual height with cusped heads divided by columns and pilasters, with trefoils in the spandrels, supporting a unique mass of tracery consisting of two tiers of quatrefoils enclosed in interlacing circles. In the wing are two single windows over those of the lower story.

Palazzo Contarini (à San Gervasio e Protasio), a Renaissance palace on the Grand Canal built by Scamozzi at the end of the XVI century. Its façade, about 60 ft. long, is in three well-marked stages, the first a fine rustic basement with broad piers with simply moulded caps, a simple round-arched doorway, and plain square windows. The second and third stories have each an order of coupled pilasters, Ionic and Corinthian respectively, the intervals occupied by long narrow arched windows with balconies. Over the centre of the front is a broad dormer with an order of pilasters crowned with a pediment, and enclosing a triple window.

Palazzo Contarini Fasan. The small but beautiful façade of this palace, which fronts the Grand Canal, is only a wing, and has no doorway. It is of brick in three stories, with three plain square windows below, and over these a group of three stilted ogee arches, decorated with billet-mouldings and finials and resting on marble columns with well-developed capitals. In the third story similar windows are enclosed in high square panels, but the middle one is replaced by a sculptured panel. The long balcony of the second story and the single balconies of the third are filled with traceried panels. Each story has twisted angle-shafts resting on decorated string-courses; the main cornice is corbelled with lions' heads. This front belongs to the first half of the XIV century.

Palazzo Corner Ca' Grande, an imposing Renaissance palace on the Grand

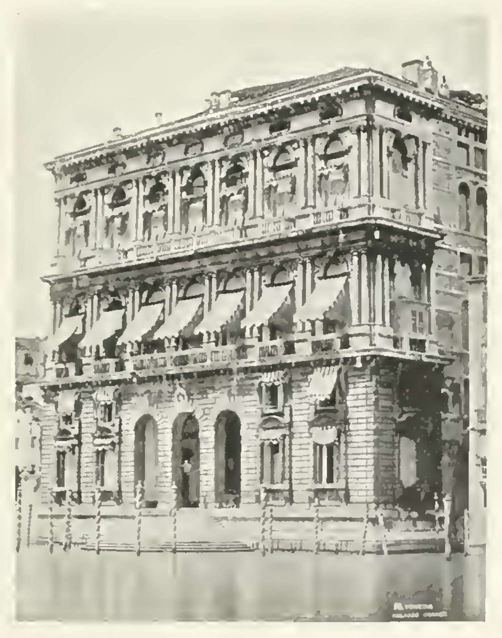


Fig. 226.—Venice Pal. Corner Ca' Grande

Canal, built by Sansovino in 1532. It has a broad façade in three stories, the lowest of rustic work with a centre of three tall arches flanked on each side by two square windows with columns and entablature, and two smaller windows over them in a mezzanine story. The second and third stories have orders of coupled three-quarter columns, Ionic and Composite, with balcony-course and entablature, the intervals filled with arched windows with decorated keys and spandrels. The upper frieze is very broad and has a series of flat oval windows over the intervals below. The interior has been much changed since the fire of 1817, and is now used as the Prefecture. (*See Fig. 226.*)

Palazzo Corner Spinelli. A xv cent. Renaissance palace ascribed to Pietro Lombardo, with its front on the Grand Canal divided into three stages, of which the first, forming the rustic basement, is the highest, and includes a ground story with an arched doorway between two rather small windows, and a mezzanine with two like windows. The windows are similar to the doorway, which has classic pilasters supporting an archivolt with decorated mouldings, the whole enclosed in a square panel with horizontal cap. At the level of the first floor is a broad, richly carved base-course. The two upper stories, substantially alike, consist each of four two-light windows separated by a column, under a round bearing-arch with a circle in the arch-head. The two middle windows in each story are grouped, and all are enclosed in square panels, with disks in the spandrels and projecting balconies. The wall-piers are also adorned with disks and square panels. The court of the palace, of later date than the façade, is attributed to Sanmicheli.

Palazzo Dario, one of the smaller of the early Renaissance palaces, interesting on account of its imitation of Byzantine decoration. The disposition of the front is singular. It is in four stories; the water story has a door between two windows, all round-arched with Corinthian pilasters at the sides, a moulded archivolt and small circular disks in the spandrels. Four larger disks of colored marble,

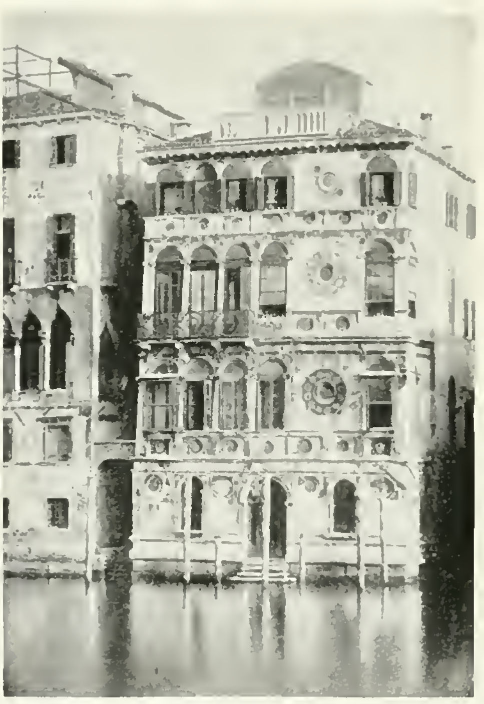


Fig 227.—Venice, Pal. Dario.

enclosed in broad carved marble borders, ornament the wall-piers, and below them is the inscription Urbis Genio Joannis Darius. The three upper stories have no relation with the lower. The usual *pergola*, or arcaded loggia, instead of being in the centre, occupies the left side, and is carried through three stories of arcades on slender Composite columns, with a light iron balcony in the middle story. All the stories are separated by panelled stylobates, and the whole façade of veined marble is decorated in all its panels, spandrels, and piers with disks of colored marble, which in the large piers are grouped in circles, and surrounded by interlacing bands ornamented with great

delicacy and beauty. The palace was built about 1450. (*See Fig. 227.*)

Palazzo Ducale, or Doges' Palace, the most conspicuous and famous example of the Gothic of Venice at its best period. The buildings composing the palace are of various ages and styles, and are built round a quadrangle adjacent to the south side of the church of St. Mark, being bounded on the other sides by the Piazzetta, Riva dei Schiavoni, and the small canal called the Rio del Palazzo. The exterior is a singularly uniform rectangular mass unbroken by any salient architectural feature. The two principal fronts toward the sea and the Piazzetta are about 234 ft. and 246 ft. respectively, and are alike and consist each of two horizontal divisions—a continuous open arcade in two stories, supporting a perfectly flat wall as high as the two stories below, entirely covered with a diaper of colored marbles, pierced with disconnected windows, and crowned with a row of fantastic battlements. The lower arcade has broad and rather low pointed arches supported on massive columns, with large and magnificently sculptured capitals, whose bases are now half a yard below the pavement. The arch-mouldings are simple and large, the only ornament being a thin line of nail-heads separating the two principal members. The spandrels were originally faced with a pattern of colored marbles, which has disappeared from all but two. The first story is crowned by a moulded belt with a frieze of little rosettes in square panels. The second story, slightly higher than the first, consists like it of a continuous open arcade of pointed arches on columns; the arches being two to each of those below, the columns much slenderer, the pointed arches higher, cusped, and of open form, and interlocked in a tracery of moulded circles enclosing quatrefoils. A balustrade of colonnettes runs between the columns. This story, like the first, is finished by a belt with a frieze decorated with rosettes. There are not even piers at the corners, but in both arcades the angle-columns are larger than the others, and the angle above is charged in each story with sculpture of the most admirable character; the angles of the first story bearing groups, and those of the second each a single figure of an angel. Above this the angle is marked by a twisted shaft runing through the height of the solid wall and terminating in a pinnacle above the cornice. The diaper of the third story consists of marble slabs of pale red and white, arranged in a lozenge pattern uniform over the whole surface. It is pierced on each front by seven broad and low pointed windows nearly corresponding in shape and size to the arches of the first story. These windows have thin columns in the jambs, arch mouldings continuing the shafts, and a thin line of billet moulding carried round jamb and arch. The central window in each front opens upon a balcony, corresponding to the *ringhiera* of the town-halls of northern Italy, and is decorated with great richness, its jamb-columns larger than in the other windows, its arch mouldings more fully developed, the spandrels adorned with figures of winged angels or with statues of saints. Octagonal buttresses with canopies containing statues flank the window, and are continued as high as the cornice of the building, ending in heavy pinnacles which flank on the one front a clumsy Renaissance gable, on the other a projecting octagonal niche with three pointed, cusped, and gabled niches enclosing sitting statues. In each case the composition is crowned by a statue high above the cornice. In the disposition of the windows of both fronts there is much irregularity. In the Piazzetta front is a pair of smaller pointed windows above those of the third story, and a range of small circular openings with quatrefoils extends through both fronts under the cornice. The cornice is

a thin, ineffective moulding, and the battlement is of detached marble slabs pierced and moulded, alternating with slender obelisks. The entrance to the palace is through a gateway at the northern extremity of the front on the Piazzetta, set back some fifteen feet, and immediately adjacent to the church of St. Mark. This gateway, called the Porta della Carta, with the elaborately decorated wall above it, is of somewhat later date than the fronts. The opening is square, enclosed by buttresses of great richness, analogous to those that flank the central windows. In the second story these enclose a large pointed window in three lights, the head filled with beautiful and elaborate tracery, and surmounted by a high gable of somewhat whimsical form, charged with sculpture in relief, ornamented with extravagant crockets similar to those of St. Mark's church, and terminating in an equally extravagant finial composed of a large foliated capital supporting a sitting figure between two lions. So far the exterior architecture of the palace is a type of the best Gothic of Italy. Its architectural effect, which is unique, lies in the splendor of the arcades and their audacious contrast with the massive wall above. The forms are both vigorous and graceful, the mouldings strong and effective, the decoration is extremely rich, extending in unbroken lines across the whole extent of the façades. We may object to the heaviness of the upper story as contrasted with the lightness of its supports, and agree with Street that it was added to the original design in obedience to a later demand for larger and higher apartments for the Council, or with Mothes and others, that the wall of the third story was originally built over the rear wall of the arcades, and was about the middle of the XV cent. brought forward over the columns. The construction, as a *tour de force*, is perhaps questionable. The arcades look overloaded, the voussoirs both above and below, as well as portions of the tracery, were much dislocated before the recent restorations: five of the lower arches at the easterly end of the sea front were filled up with masonry, and the arches of both stories are held together by continuous ties of iron both lengthwise and across the arcades.

The façades already described are all which remain of the old Gothic palace dating from 1301 to 1423. Successive fires were followed by extensive rebuildings, and in the later of these the native style was abandoned for the newer Renaissance. The architecture of the great courtyard is very varied in its treatment, marked everywhere by great richness, and much sculptured ornament, many of the piers bearing niches enclosing statues, the friezes broad, with reliefs of figures and wreaths, and the two lower stories surrounded for the most part by open arcades. The arcade of the second story is pointed, in imitation of those outside: the rest is pure Renaissance. A broad staircase of white marble dating from about 1483, and known as the Giants' Staircase, with richly panelled sides and balustrades, leads from the courtyard to the second story arcade, and in the centre of the courtyard are two beautiful cisterns of bronze of about 1560, octagonal, with figures at the angles and surfaces very rich in bas-reliefs. The easterly side of the palace, on the small canal, is also, except a bit of the front corner, of Renaissance design, and is remarkable for the variety of its treatment. The basement is of vigorous rustic work, each stone cut into the form of a projecting or depressed pyramid. Above this the wall is in four stages, separated by projecting cornices and showing close ranges of windows in each story, of various form and decoration, some square and some arched. Six arched doorways with decorated jambs give access to the first story of the palace, and from the second story the Ponte dei

Sospiri, or Bridge of Sighs (*q. v.*) springs across the canal to the prisons on its opposite side. Of the interior, the interest is confined to the great halls of the third story, and these, having been wholly changed as to their architecture in the Renaissance period, are now remarkable chiefly for the examples which they afford of the work of the later Venetian painters, notably Tintoretto and Paul Veronese. The Hall of the Great Council, an immense room 175 ft. long, 85 ft. broad, and 50 ft. high, contains on its east end wall the Paradise of Tintoretto, occupying the whole breadth and height of the wall above the wainscoting; the other walls and the ceiling, which is divided into panels of extravagant form with florid Renaissance ornamentation, are covered with historical and allegorical pictures by Tintoretto, Paul Veronese, Palma Giovane, and other masters. The frieze is divided by the consoles of the cornice into square panels, occupied by the portraits of the doges from the earliest times. Most of the other larger and smaller halls are equally magnificent in their pictorial decoration.

The Palace now existing, itself the work of various ages, is the successor of the older Byzantine palace, built early in the IX cent., very soon after the establishment of the Venetian state, and nearly contemporary with the earliest church of St. Mark. Although several times damaged by fire it does not seem to have been ever wholly destroyed, but was restored after each disaster with more or less substantial alterations and enlargements, until in or about 1301 the work of the Gothic palace was begun, and carried on in one or another portion of the buildings until the middle of the XV century. The architect whose name has most generally



Fig. 228.—Venice, Ducal Palace.

been associated with this work was Filippo Calendario, who suffered death in 1355 for being concerned in the conspiracy of Marino Faliero. There is, however, the evidence of various contemporary documents that he was preceded by one Pietro Baseggio, to whom the design of the arcades of the two principal fronts is due. The later works of the Gothic period, including the Porta della Carta, appear to have been executed under the different members of the Bon or Buon family. The Renaissance architecture of the courtyard and the easterly façade on the Rio del Palazzo was by various architects, including Antonio Rizzo, Pietro and Tullio Lombardo, and Guglielmo Bergamasco. (*See Figs. 228, 235, 236.*)

Palazzo Durazzo. See *Palazzo dell' Ambasciatore.*

Palazzo Foscari, a brick-faced Gothic palace in the style of the XIV and XV cents., with a straight façade divided into the semblance of a centre and wings, as is usual in the Venetian palaces, by the grouping of the openings. The lower story is plain, with central door and a range of windows, ogee-arched. Above this all the openings are framed in rectangular panels in the usual Veneto-Saracenic fashion. The wings have two single windows in each story. In the second and third the central division is occupied by open loggias, with arches and columns; in the third these arches have the Ducal Palace tracery of quatrefoiled circles: the fourth, added later, has in the middle a group of four lights and intersecting tracery, and the whole finishes with a corbelled cornice. The balconies of both loggias and the carved belt over the upper are Renaissance. The palace was built, it is said, near the end of the XIV cent., by the Giustiniani, who built also its two neighbors on the south; the fourth story was added by the doge Foscari about 1438. (*See Fig. 229.*)



Fig. 229.—Venice, Pal. Foscari.

Palazzi Giustiniani. Two XIV cent. Gothic palaces, forming practically a single composition and making, with the adjoining Foscari palace, one of the most conspicuous groups on the Grand Canal. The façade is in four stories, of which the first has round-arched and pointed-arched doorways, and several square and narrow windows. In each the windows are massed, after the Venetian fashion, in the middle of the front, into two stories of traceried arcades, ornamented with projecting balconies and surmounted by a tracery of quatrefoils, the arches being pointed and cusped. Single windows are disposed at intervals with pointed and cusped arches enclosed in square panels. All the windows of the second and third stories have projecting balconies. Two of the piers of the third story are decorated with square panels and disks of colored marble.

Palazzo Grimani (à San Luca), formerly Post Office now Court of Appeals. A xvi cent. Renaissance palace by Sanmicheli, on the Grand Canal, with an admirable façade in three stories decorated with three Corinthian orders, of pilasters in the first story, and of columns in the upper two. Of the five intercolumniations in each story, the two at the ends are enclosed by coupled pilasters or columns, thus preserving the conventional division of the Venetian palaces into centre and wings. The first story has high entrance arches in the three middle intervals, between two ranges of square windows. These arches give entrance to an obliquely rectangular vestibule divided into three aisles by coupled Corinthian columns. In the upper stories broad round-arched windows alternate with pairs of smaller square windows one above another. A balustrade crosses the whole front of the second story. The scale of the façade is very large, and the simplicity and temperance with which it is treated make it one of the best examples in Venice of the domestic Renaissance.



Fig. 230.—Venice, Pal Loredan.

Palazzo Loredan, an early Byzantine palace on the Grand Canal, probably contemporary with the Fondaco dei Turchi, which it resembles in its general disposition. Its front is about 60 ft. long, and consisted originally, as in most of the Byzantine palaces, of two stories, to which in recent times a third and an attic have been added of incongruous character. The front was divided into three portions, a central open arcade in each story, the arches round and stilted, and resting on columns of colored marble with fully developed foliated capitals ; the side divisions with two windows in the lower story and three in the upper, matching the arches of the centre, and in the second story forming a continuous arcade across the front. The upper arches had originally a light balustrade between the columns, which has been replaced by a rather clumsy balcony front in panels. Above the second story arcade the wall was decorated with disks of colored marble, set over the spandrels ; some of these disks still remain : others have been replaced by more elaborate decorations. These are additions, presumably of the xiv century. This palace, though much dilapidated, is pronounced by Mr. Ruskin the most beautiful in the whole extent of the Grand Canal. (*See Fig. 230.*)

Palazzo Manin, a Renaissance palace on the Grand Canal, built about 1560 by Sansovino. It has a large front in three stories, of which the lowest is an open arcade of six equal arches with Doric pilasters between, bearing an entablature. Above this are two full orders of columns and entablatures, Ionic in the second story, Corinthian in the third, the division

into a centre and two wings rather suggested than carried out by making four intervals in the width of the two central ones below. All the intervals are occupied by rather narrow round-arched windows with thin pilasters in place of architraves. The second story has a projecting balcony supported on consoles; the third a balustrade with pedestals supporting the columns. The frieze of the upper order is enlarged and decorated with sculptured heads over the columns; the cornice is carried on consoles.

Palazzo Pasqualigo. See *Palazzo Cicogna.*

Palazzo Pesaro. This is perhaps at once the richest and most vigorous example of the Renaissance domestic architecture of Venice. Its front consists of a high basement of bold rustic work, surmounted by two fully developed orders,



Fig. 231.—Venice, Pal. Pesaro.

Ionic and Corinthian, with arches in the intervals. The centre of the basement is occupied by two arched doorways and a graceful niche between two square windows an either side. Coupled columns in the two upper stories part off the centre and wings. In each of these stories the columns are set above a balustrade, that of the second story running in front of the columns, that of the third story between them. The arches throughout the columns have boldly projecting sculptured keystones and reclining figures in the spandrels. The upper frieze is very high and decorated with sculptured panels, and the cornice is supported by projecting consoles. The palace was begun in 1679; Longhena was its architect. (*See Fig. 231.*)

Palazzo Pisani Moretti, one of the latest of the Gothic palaces, built at the beginning of the XV century. Its front is of three stories with the usual division into centre and wings. The lowest story has the unusual feature of two similar pointed-arched doorways occupying the centre. Above, the central division consists of a rich arcade of six arches in each story, the tracery of the second story like that of the Ducal Palace; that of the third story with interlacing arches of rather clumsy form with quatrefoils above them. The central arcade has a projecting Renaissance balcony in the second story, and in the third a balustrade between the columns. The side divisions have each two single windows in the second and third stories, with ogee heads enclosed in high square panels and with projecting balconies.

Palazzo Rezzonico, a Renaissance palace on the Grand Canal, built about 1680, by Longhena, with a third story

added after his death by Massari. The lower story has an order of rustic engaged Doric columns and pilasters, three openings in the centre giving access to an entrance vestibule, with two square windows on each side. The second and third stories consist each of an order of engaged columns, Ionic and Corinthian, with round-arched windows in the intervals, the spandrels decorated with sculpture, and balustrades between the columns. The frieze of the upper entablature is broadened to admit a series of elliptical windows with consoles between. (*See Fig. 232.*)

Palazzo Sagredo, a XIV cent. Gothic palace with an interesting and curiously irregular façade on the Grand Canal, adjoining the Ca' d'Oro. It is in three stories, to which a fourth has been added, of insignificant character. The lowest story, raised by a single step above the water of the canal, has simple round-arched doorways, and plain square windows. The usual loggia, in the principal story, the third, consists here of four cusped and pointed arches, surmounted by a tracery of quatrefoils and inclosed in a square panel, and flanked by two single windows of like design, all with corbelled balconies. Below is a group of six simple pointed arched windows, again flanked by two others. The windows, as well as the arcade in the third story, have each a projecting balcony of the usual Gothic type. The front is built of rude brickwork covered with plaster, now much decayed.

Palazzo Sanudo, now Vanaxel, a Gothic palace of the first half of the XIV cent., and substantially unchanged both in its main features and its details. It is of three stories, the first a plain basement with square windows and a pointed doorway. The ogee-headed windows in the second and third stories are centred in a group of five in each story, divided by shafts and with projecting balconies, and the front is crowned by a thin projecting cornice supported on brackets. The architecture of the front is continued for a



Fig. 232.—Venice, Pal. Rezzonico.

short distance on the left side, where an interesting pointed doorway still closed by the original richly carved doors, gives access to a spacious entrance hall extending across the whole front of the palace, and opening by pointed arches on a courtyard which contains a fine staircase of white marble of even date with the building, and with much admirable detail. The courtyard contains also a fine stone well-curb richly sculptured.

Palazzo Trevisan (alla Canonica), a XV cent. transitional palace, with a façade about 80 ft. long, in four stages, each with four Ionic pilasters with entablature, dividing the front into a centre and two wings. The lower story has a central round-arched doorway, flanked by two square windows on each side, and in each wing a doorway and one window. The upper stories have each a central arcade

of six arches, and in each wing two single windows with a circular window high up in the pier between them. The windows of the second and third stories have graceful balconies, and the wall surfaces of the wings are decorated with a Byzantine inlay of colored marble disks, and panels of great delicacy and beauty. The palace became, in 1577, the property of Bianca Capello, whose name it also bears.

PALAZZO TREVISANO (à Sta. Maria Formosa), a Renaissance palace built in 1525–35, by Sante Lombardo, with a façade of about 70 ft. in three stories. The centre is marked in the first story by two round-arched doorways, with a square doorway between, opening on a narrow bridge which crosses the small canal on which the palace fronts. The two upper stories have each a central arcade of four round arches on Composite columns, flanked by two corresponding windows on each side. The angles are marked in each story by broad flat panelled Composite pilasters, carrying entablatures which are continued across the front, and the upper one of which makes the cornice of the building. The broad piers between the side windows and the friezes are ornamented with panels and disks of various colored marbles.

PALAZZO VENDRAMIN CALERGI, one of the largest and finest of the Renaissance palaces of the Grand Canal. Its front is about 80 ft. long and 65 ft. high, in three stories, each ornamented with a Composite order of columns or pilasters, disposed according to the usual arrangement of the earlier Gothic palaces, the three central bays being separated from the two lateral ones by a narrow interval of wall. The order is in the first story one of panelled pilasters: above, of engaged columns, fluted in the second story, plain in the third. The second story is crossed by balconies of which the detail has still much of the feeling of the earlier Gothic work. Except the two lateral windows of the first story, which are square, all the windows are substantially alike, consisting of two sub-arches carried on a column under an enclosing arch with a circle



Fig. 233. Venice, Pal. Vendramin.

between. The crowning entablature is enormously disproportioned to the columns. The front is, for the most part, of gray Istrian stone, with the columns and portions of the wall of white marble, and the medallions and other ornaments of porphyry, serpentine, and other costly stones. The building, by Pietro Lombardo, dates from 1481. (*See Fig. 233.*)

The PRISONS (I Carceri), a Renaissance building erected in 1589 by Antonio da Ponte, with a front toward the sea and another on the small canal which separates it from the Ducal Palace, with which it is connected by the Bridge of Sighs (*q. v.*). The sea-front is in two stories, the lower of rustic arches surmounted by a strong belt-course on which stands the quasi-Doric order of the second story, the three-quarter columns backed by flat engaged pilasters, and the intervals filled with rustic walling pierced by square windows with a decoration of



VENICE—S. MARCO, CENTRAL PORTAL







simple flat entablatures and pediments, the latter alternately triangular and segmental. The side on the canal is of quite different architecture, a strong rustic wall pierced with three stories of small square windows without ornament.

The PROCURATIE are two long ranges of buildings occupying nearly the whole of the north and south sides of the Piazza San Marco. The Procuratie Vecchie, on the north, was built in 1517 for the residence of the Procurators of St. Mark, a body of officers uniting many of the most important administrative, municipal, charitable, and ecclesiastical functions. The façade has three stories of arcades on columns, of which the lowest is open, with broad round arches, fifty in number, the others glazed, with two arches to each of those below. Above the arcades is a lower fourth story with round windows, and the front is terminated by a thin cornice with a battlement similar in character to that of the Ducal Palace. It is not clear to whom the design of this building should be ascribed. (*See Fig. 235.*)

The Procuratie Nuove, on the south side, was erected in 1584 to furnish residences and offices for the increased number of Procurators. The architecture of the Library (*q. v.*), which has a front of some 50 ft. on the Piazza, is continued in these buildings, but Scamozzi, to whom the work was entrusted, cut down the inordinate height of the second story frieze, and added a third story consisting of a Corinthian order with balustrade, the intervals filled with square windows decorated with columns supporting entablature and pediment, the latter alternately triangular and segmental, and each bearing two reclining figures. These buildings were, during the occupation of Venice by Napoleon, converted into a royal palace for the occupation of the Viceroy.

Il REDENTORE, one of the most familiar of the Renaissance churches of Venice, was built by Palladio in 1576, as an offering of gratitude for the deliverance of the city from the plague of the previous year, by which forty thousand people are said to have perished. Its façade is masked by a tetrastyle Corinthian portico with pediment covering the nave. Between the columns is a great arched central door decorated with a smaller Corinthian order and pediment, and side niches with statues. The whole is raised on a high basement and approached by a broad flight of marble steps with balustrade. The smaller order, with pilasters, covers the ends of the aisles, and is continued round the sides of the church. The interior shows a broad nave in three divisions, with a barrel-vault springing from an unbroken entablature over coupled Corinthian columns on the faces of the piers, and two stories of niches between them, the pier-arches springing from lower engaged pilasters. The narrow aisles are divided into long chapels with niches at either end. The nave leads to a central square surmounted by a dome, and surrounded by three apses in place of the usual well-marked choir and transept.

The RIALTO. This famous bridge is the successor of many earlier ones, the first, a bridge of boats, later ones of wood, of which the last was built in 1523. This having in its turn been destroyed, it was determined that a stone bridge should be built, and designs were received from Michael Angelo, Sansovino, Vignola, and Scamozzi. The work was finally given to Antonio da Ponte, under whom the bridge was begun in 1588 and finished in 1591. It is imagined to rest on twelve thousand piles, and is a single segmental arch of nearly 90 ft. span, with footways sloping upward from each bank of the canal to the centre, where is a small level interval. The whole breadth is about 70 ft., of which about 20 ft. in the middle is given to a central passageway flanked on either side by a row of shops, outside of which is an outer footway about 10 ft. wide, pro-

tected by a balustrade. Above this is an open arcade following the slope of the bridge, of six arches on each side with rustic piers and voussoirs; the central arch being larger and enclosed by flat pilasters with a broken pediment. The structure is of white marble, and a double flight of steps gives access to it at either end.

S. Francesco della Vigna, a Renaissance church built from the designs of Sansovino in 1533. Its plan is a rectangle about 100 ft. wide and 180 ft. long, from the east end of which the choir projects some 70 ft. The division of the plan is curious: the nave, about 52 ft. wide, is flanked by five square chapels on each side, opening through round arches in the intervals of an order of pilasters, above which the clerestory wall is similarly divided, each bay having a single plain round-arched window. The clerestory ends in a cornice with consoles, above which is a coved ceiling. The nave is continuous, and the arms of the transept open from it like larger chapels. The long choir, corresponding to the transept, is divided into two equal portions with the raised altar between them, and is flanked on each side by two chapels and a narrow passage running its whole length. The choir and the chapels of the nave are raised above the nave floor by three steps following the entire outline of the nave and transept. The façade is by Palladio, and consists of a centre and wings following the outline of the nave and aisles, the centre faced with a great Corinthian portico of four columns with pediment, the sides having each a half pediment with a smaller order, of which the entablature is at the level of the aisle cornice, and stops against the columns of the central portico. A single lofty door and a lunette above it are the only openings.

S. Giorgio Maggiore. A Renaissance church, part of an old convent on a little island opposite the Piazzetta, built in 1565 from the designs of Palladio, on the site of a former church which dated from the x century. Its façade, following the outline of the nave and aisles, is crossed by an order of Corinthian pilasters as high as the aisles. A lofty engaged portico in front of the nave is raised on tall pedestals to cover the height of the clerestory, and crowned with a pediment. The first order appears through its intercolumniations, which are filled with niches and statues; and in the middle is a high, round-arched door. The corners and the ridge are marked by acroteria bearing statues. The interior is cruciform, with nave and transept covered by elliptical barrel-vaults, and the crossing by a hemispherical dome. The aisles are groined, and separated from the nave by square piers surrounded by engaged columns and pilasters on pedestals, and connected by broad round arches with an entablature above. The transept ends are semicircular, the choir is shut-off by a two-story screen, with the raised organ behind it and the altar beneath. The choir-stalls, which are of unusual richness and elegance, were executed at the end of the xvi cent. by Albert de Brullé, a Fleming, and a number of Venetian artists. A fine brick campanile rises from the N. E.



Fig. 234. Venice, S Giorgio Maggiore.

corner of the church, plain, with a stone belfry having a great square opening on each face, divided by two columns with entablature and balustrade, and a circular lantern above, with sharp conical spire. The choir is a single rectangular groined bay, flanked by two smaller octagonal steeples with bulbous spires. From this opens, by an arch springing from coupled columns, a retro-choir or chapel of the full width of the choir and twice as long, ending in a semicircle. Attached to the church is a cloister built in 1579 from Palladio's designs, with round arches on coupled Ionic columns, and a refectory a few years earlier than the church, containing a vestibule some 30 ft. square, with a fine staircase leading to the great hall above, 30 ft. wide, nearly 100 ft. long, and 50 ft. high, and considered among the finest of Palladio's works. (*See Fig. 234.*)

S. Giovanni Crisostomo, a Renaissance church begun in 1483 by Moro Lombardo, the exterior not remarkable. It is a type of a considerable group of churches with the Byzantine plan of a Greek cross enclosed in a square, and a central dome carried on four square piers. The proportions here are slender, the square piers are small, carrying an entablature over the arches which spring from them. The nave terminates in an apsidal choir, and the aisles in semicircular apses. It contains some good reliefs by Tullio Lombardo, representing the coronation of the Virgin, and the twelve apostles.

SS. Giovanni e Paolo, one of the most important of the Gothic churches of Venice. It is cruciform in plan, with a total length of about 325 ft., and a breadth across the transept of 150 ft. It has a nave and two aisles, transept, choir, and eastern apse, built with brick throughout and of somewhat rude execution. Its exterior is not noteworthy. The front is in three divisions corresponding to the nave and aisles, and separated by square buttresses ending in tabernacles crowned with spires. An arcade of pointed arches stretches across the whole lower portion, the middle arch containing the great doorway of the nave. Over this is a central arcade of seven openings. These two stories of arcades doubtless answer to the openings of a portico or narthex which originally stood before the front with a gallery above it. Above the portico was a large traceried rose-window, but the tracery has disappeared. The sides present high aisle walls divided by square buttresses into bays corresponding with those of the interior, each bay having a triple pointed window. The clerestory, divided like the aisle wall by square buttresses, and subdivided by pilaster strips, has single pointed windows. The high transept is plain and bare, and the east end, as in the church of the Frari, is the most attractive portion of the exterior. The great apse of the choir is seven-sided and is divided into two stories by a strong brick cornice, and a balustrade above it. Its tall windows are divided by tracery, set back from the wall surface, the jambs being deeply splayed. The interior has a nave and aisles of five bays, those of the nave square, those of the aisles oblong, and all covered with simple four-part vaulting of brick. The nave, 40 ft. wide, reaches the unusual height of 128 ft. The nave-piers are round and massive, with large leafed capitals from which engaged shafts rise through the clerestory to take the vaulting-ribs. The clerestory is very high, with a single pointed window in each bay. The square-ended transept has one bay to each arm, vaulted like those of the nave, and the crossing is covered by a light hemispherical dome, somewhat resembling those of S. Antonio at Padua. Two apsidal chapels open from the eastern side of each arm. The choir is very long, and in general disposition similar to that of the Frari. The church was begun after 1234, but its building was often interrupted, and it was only consecrated in

1430. It contains many remarkable monuments, among others those of the doges Morosini, Mocenigo, Vendramin, and Cornaro, and two pictures by Tintoretto which are reckoned among his best works. There are several lateral chapels, notably the Chapel of the Rosary in the north aisle, in which Titian's famous picture of St. Peter Martyr was burned a few years ago.

S. Marco (St. Mark's), one of the most important and interesting of European churches, and the most characteristic and splendid example of the Byzantine architecture and decoration transplanted to the west. Its plan is nearly a Greek cross, with nave and choir of about 40 ft. broad, the transept arms about 8 ft. less, and all flanked by aisles of half their width. The interior length is not far from 230 ft., the breadth across the transept, 195 ft. The nave and choir, the arms of the transept, and the square of the crossing, are each covered by a hemispherical dome of masonry, above which is a high-shouldered dome of wood. A close ring of windows surrounds the bases of the domes, which are of unequal size; those of the crossing and the nave being each about 42 ft. in diameter, the others about 30 ft. The interior is rather low; the nave is less than 70 ft. high, and the highest domes only 92 ft. The square bays covered by the domes are separated from each other by narrow rectangular bays covered by barrel-vaults. The aisles, both of nave and transept, are covered by transverse barrel-vaults as high as those of the nave, and are separated from the nave and transept by screens of alabaster columns, bearing round arches much stilted and slightly horseshoe in form, over which is a narrow passage or gallery protected by a horizontal fence or balustrade, divided into panels with Byzantine carving. The central dome rests on four great arches springing from piers about 25 ft. square, through which are carried in two directions the aisles of the nave, transept, and choir. The choir and its aisles each terminate in a round apse, of which the outline is varied by semicircular niches in the thickness of the wall. The floor of the choir is slightly raised above that of the nave, and separated from it by a screen of eight columns, raised on a high stylobate, beneath which may be seen a portion of the older Byzantine screen, and bearing a horizontal entablature crowned with fourteen statues of apostles and saints. Similar screens, each of four columns, placed a little to the eastward, close the choir aisles from the transept, and still another crosses the choir in a line with the front of the high altar. At each end of the choir screen is an ambo of marble, supported on columns, that at the north end being two stages in height, approached by a staircase from the choir aisle, and crowned by a hemispherical dome. The high altar stands under a baldacchino or canopy consisting of four columns of alabaster, covered with rings of small arches on colonnettes, each enclosing a figure in relief, and carrying simple round arches with a horizontal cornice finishing the wall above. Behind the altar is a remarkable reredos called the Pala d'Oro, an interesting and sumptuous example of early metal and enamel work, reputed to have been made in Constantinople for this church and brought to Venice early in the XII century. But the historical evidences of its origin are contradictory, and it is evidently a composite work, of various epochs and styles. The material is silver gilt, with pictures and inscriptions in enamel, the subject being treated with the *naïveté* characteristic of the art of the early middle ages, and arranged in eighty-three panels, of which the greater part are narrow upright compartments enclosing a single figure of a saint, the larger ones bearing groups. The surfaces are farther enriched with gems of brilliant colors. The apse is lighted by three simple round-headed windows above

the niches, and this is the form of nearly all the windows, the exceptions being the great semicircular window in the façade, and a large rose-window in the south transept, with thin Gothic tracery, quite out of keeping with everything else in the church. Beneath the choir and its aisle is a crypt cruciform in plan, divided by some sixty columns of Greek marble into small vaulted bays, and with a small altar, which formerly enclosed the body of the saint, just under the high altar of the choir. The western arm of the cross is surrounded on the front and sides by a closed vestibule or narthex of somewhat later date than the church, of which, on the exterior, it forms the most conspicuous and familiar portion, and with the interior of which it communicates by four doorways opening into the nave, aisles, and transept. It is divided by pointed arches into square bays, each covered by a low dome, and is decorated profusely with mosaics of the same character and magnificence with those of the church (*see below*). The south side of the vestibule is occupied by the Chapel of Cardinal Zeno and by the Baptistery, the latter containing in the centre a large basin of porphyry, with a remarkable bronze cover surmounted by the statue of John the Baptist, and on the south wall the tomb of the doge Andrea Dandolo. Opening from the eastern end of the north choir aisle is the sacristy, a noble room some 25 ft. by 60 ft., with a coved ceiling covered with admirable mosaics, mostly of the XVI cent., and walls decorated with Renaissance pilasters of dark walnut delicately carved, and panels of wood-inlay with pictorial subjects. The sacristy opens also from the apse of the choir by a doorway closed by a remarkable bronze door, one of the most celebrated works of Sansovino. The chapel at the north end of the transept contains some extremely beautiful and characteristic detail ; a fine tomb in an arched recess, with sculptured spandrels and the walls and vaults covered with admirable mosaics. Of the interior of this church it may be said that there is

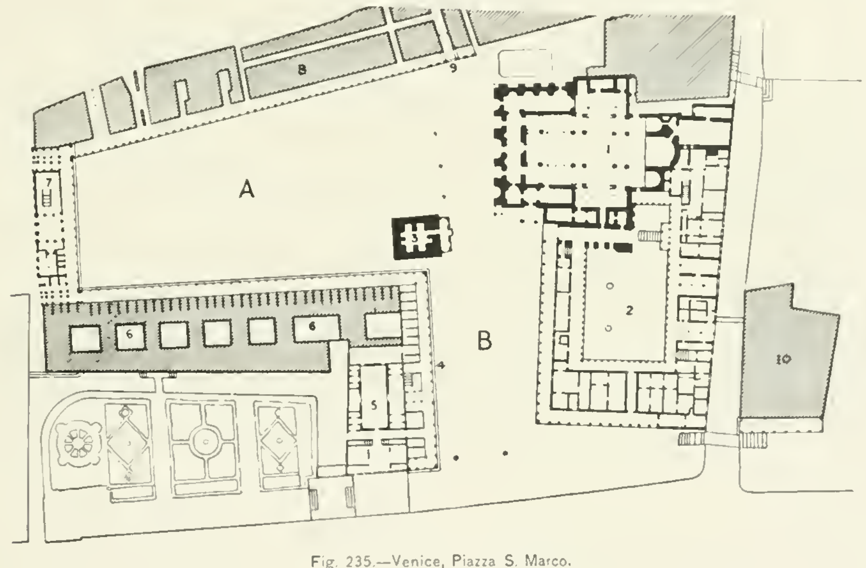


Fig. 235.—Venice, Piazza S. Marco.
A, Piazza. B, Piazzetta.

1, St. Mark's. 2, Ducal Palace. 3, Campanile. 4, Library. 5, Zecca. 6, Procuratie Nuove. 7, Fabbriche Nuove. 8, Procuratie Vecchie. 9, Clock Tower. 10, Prisons.

nothing either in its dimensions or general design to entitle it to the pre-eminence which it holds among the churches of surrounded by a broad joint of white plaster, but the pictorial subjects are treated with simplicity and grandeur, the



Fig. 236.—Venice, S. Marco and Ducal Palace.

Europe, and which is due almost wholly to the splendor and variety of its decorations. Among these the most important place belongs to the mosaics. The walls are faced to the height of the nave arcades with slabs of a pale marble to which age has imparted a mellow tone. Above this both walls and vaults throughout the church are covered with gold mosaics of the most magnificent character, of which the greater portion belong to the end of the XII cent., or beginning of the XIII, while a few date back to the period just following the completion of the church in 1071, and some are as late as the XVI century. The earlier are by far the most interesting and admirable, as adapted to the purpose of surface decoration. Their setting is irregular, and the tesseræ are colors are at once rich and harmonious, and the effect of the whole interior thus decorated is one of great solemnity. The mosaic pavement is not the least noteworthy feature of this interior. It is of the sort known as *opus Alexandrinum*, of a surprising variety of designs and colors. The exterior appears to have been originally simple, and even rude; its character, though no exact information exists in regard to it, may be inferred from that of the transept ends as they now appear. Broad surfaces of plain wall are decorated in the lower part with marble, disposed mostly in panels of various colors and shapes, and with many bas-reliefs, mainly of Byzantine character; the upper portions are of rude brickwork plastered and bare of ornament, with small, narrow windows,

and terminating in low curved gables. The front had doubtless a porch or narthex covering the breadth of the nave and aisles, with a gallery over it. This was rebuilt in whole or in part, in the XI or XII cent., and extended in the XIV cent. on the north and south sides as far as the transept. The architecture of this portion of the church is quite unexampled. The façade presents an arcade of five broad and lofty round arches, covering recesses of great depth, of which the central and two end ones are nearly semicircular in plan, and the intermediate ones square, but all ornamented with a multitudinous array of columns in two stages covering the jambs and the faces of the piers. The shafts are of various kinds of marble, porphyry, alabaster, verd-antique, and of various sizes and shapes, round and polygonal, smooth and fluted, most or all of them brought from the East in obedience to the command of the Senate, many of them bearing Armenian or Syrian inscriptions. The capitals are all of white marble, but of an inexhaustible variety of designs. The central arch is much larger than the others, being about 25 ft. broad, while the side arches are about 16 ft., and is surrounded by a broad archivolt of extremely rich and beautiful carving, cutting up through the long balustrade which surmounts the arcade. All the arches enclose square doorways with stilted arched heads, over which, and filling the head of the arch above, are mosaic pictures, the subjects mostly connected with the legend of the transportation of the body of St. Mark. The great arcade is lengthened by the addition of a small portico or pavilion at each end, with a narrow open arch as high as the others. The arcade occupies, perhaps, two-thirds the whole height of the façade. Above it—the long balustrade forming a strong horizontal demarcation between the two parts of the front—is a series of five round arches answering to those below, but treated, so far as the arches themselves are concerned, with much greater simplicity. The central arch, much broader and higher than the rest, is entirely filled with a great window 30 ft. wide, through which a flood of light is admitted through the nave, and in front of which stand the four colossal bronze horses brought from the Hippodrome at Constantinople in 1204, of whose earlier history many questionable stories are told. The four lesser arches enclose each a small plain round-headed window, the arch head being filled with mosaic. All the arches are surrounded by carved archivolts, that of the central arch the largest and richest, and all are surmounted by ogee gables decorated with wild and extravagant crockets, and terminated by statues. In the central gable is the winged lion of St. Mark on a field of blue mosaic. Between the arches are tall pinnacles with arched

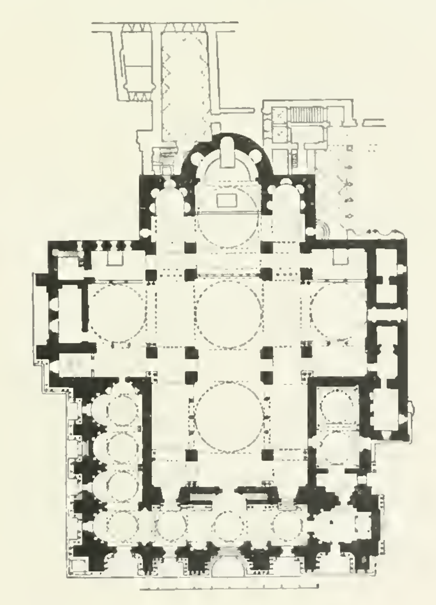


Fig. 237.—Venice, S. Marco.

canopies enclosing statues and finished with spires. Behind these rise the great domes of various sizes and heights, covered with metal and crowned with bulbous cupolas. The effect of the whole is one

of indescribable strangeness, as far removed from the soaring majesty of the northern cathedrals as from the noble simplicity and repose of the Greek temples, yet from neither of these does one receive a more profound and lasting impression. The building is both without and within a vast storehouse of Byzantine art in form and color; the mosaics are more extensive and magnificent than in any other existing monument, unless it be Sta. Sofia at Constantinople, and in no other can the best qualities of Byzantine sculpture be more profitably studied. The greater part of the capitals follow the Corinthian model, but in portions of the building, notably the vestibule, the baptistery, and a beautiful octagonal baldacchino covering a small altar in the nave, a great number of characteristic and admirable examples of Byzantine capitals are to be found. The earliest church on this site dated from 830, and was dedicated to St. Theodore. It was to this church that the body of St. Mark was brought, after having been secretly brought away from Alexandria; it was burned in 976, and at once rebuilt. The new church appears, however, to have been still again rebuilt, having been finally finished as late as 1071 under the doge Domenico Selvo, and consecrated in 1094 on the miraculous recovery of the body of the saint. The mosaics were for the most part added during the two following centuries. The architect is unknown, and much controversy has been maintained on the question whether he was a native Venetian or an imported Greek. The church was originally the official chapel of the doges and attached to the palace; it became the cathedral only as late as 1807. (*See Figs. 235–238.*)

Fig. 238.—Venice, S. Marco.

Sta. Maria del Carmine, a cruciform church, formerly attached to a Carmelite monastery, has the characteristics of an old basilica modernized in the XVII cent.; but is reputed to have been built in the XIV. It is cruciform, and has a nave with arcades of twelve arches carried on old columns, now painted, whose lower parts are encased in modern octagonal pedestals. Above the columns the interior is all transformed; statues are bracketed out, one from each spandrel, under a rococo entablature; the nave has an elliptical groined vault, with large semicircular windows in lunettes; the upper walls, showing no clerestory, are all occupied by great square paintings, one in each bay. The aisles are flat-ceiled. The transept arms are walled off from the choir, which has perhaps been extended southward (the

church fronts north), and ends in a groined polygonal apse. The front, remodelled like the interior, is plain and unimportant. The church is said to have been built on the site of an earlier one—perhaps only enlarged or restored—in the middle of the XIV century.

STA. MARIA DEI GESUITI, the Jesuits' church, is in plan substantially a repetition of Vignola's church of the Jesuits in Rome. It is cruciform, with barrel-vaulted nave and choir bordered by chapels, short transept arms, a domed crossing, and a square east end. The interior, lined with a single order of coupled Corinthian pilasters, is decorated with an amazingly sumptuous inlay of colored marbles, chiefly green and white, in a damask pattern which covers even the shafts of the columns. The vaults are rich with stuccoed ornament and gilding, and an elaborate rococo baldacchino covers the high altar, the work of Giuseppe Pozzo. The façade is adorned with a huge order of smooth Corinthian columns, and a row of statues on the rake of the great pediment breaks the sky-line. The church was built in the first quarter of the XVIII cent., the façade by Giovanni Battista Fattoretto, the interior by Domenico Rossi. *(See Fig. 239.)*

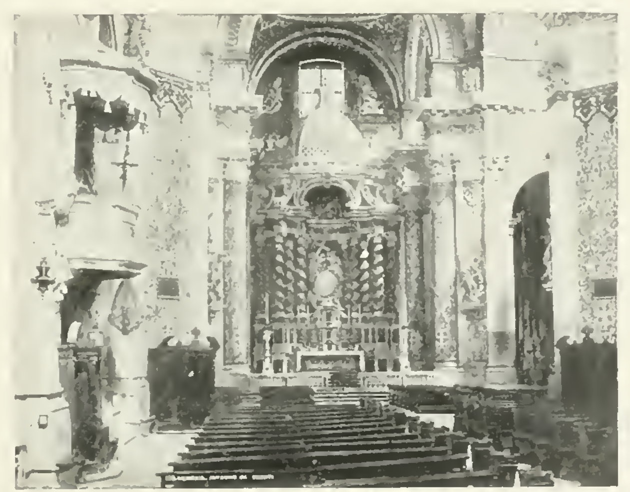


Fig. 239.—Venice, Sta. Maria dei Gesuiti.

STA. MARIA GLORIOSA DEI FRARI, the church of the Frari, is after St. Mark's perhaps the most noted church in Venice. Its exterior is for the most part bare and uninteresting. It has a poor façade divided into three compartments, each with a round window, by pilasters or buttresses terminating in pinnacles with canopies, the central division having a pointed arched doorway and gable with a similar pinnacle at the apex. The opening is flanked by two large buttresses in the form of octagonal turrets, divided into six stories of panels and bearing each a statue. The interesting portion of the east end is the apse of the choir. It is polygonal in plan, with an angle instead of a face in the central axis. It has two high stories of single pointed windows, subdivided by geometrical tracery. The jambs are all of brick, the arch-heads of stone, and a decorated brick archivolt encloses the stone arch; a corbelled string-course separates the stories; the upper cornice is small and simple. The polygonal wall of the apse, not continuous with the square bay of the choir, abuts against a simulated east wall, consisting of two heavy buttresses, bridged by a gable, which stop the arcaded cornice of the rest of the church. On each side of the apse the exterior zigzag wall of the lateral chapels of the transept presents a series of faces which are treated like those of the lower story of the apse. In the angle between the north aisle and transept is a square campanile, with two stories of blind arches, and a belfry stage with three round arches in each face, with a heavy cornice and an octagonal stage above. The whole church is about 260 ft. long by 160 ft. across the transept. The interior of brick has a nave

and aisles of six bays, oblong in the nave and square in the aisles, with pointed arches springing from high round piers



Fig 240.—Venice, Church of the Frari, Apse.

with rather low foliated capitals, a low clerestory with ugly lunettes in place of what were probably small rose-windows. The aisles are nearly as high as the nave, with a simple long and narrow pointed window in each bay. Clustered vaulting shafts rise from the capitals of the piers on the nave side to the spring of the simple four-part brick vaults. The aisle vaults spring from pilasters corbelled out from the walls at mid-height. Each arm of the transept is divided into two oblong bays vaulted like those of the nave. From the eastern wall of each arm open three vaulted chapels, terminating in polygonal apses with an angle in the middle. The choir has a single square bay covered by a groined vault, and the polygonal apse already described. This apse is imposing from its great height and its two stories of traceried windows, containing some fragments of very rich glass. A portion of the nave west of the transept is enclosed and occupied by some richly decorated Renaissance stalls. The screen separating them from the nave is an elaborate composition of pilasters and arches, the latter filled with bas-reliefs arranged in panels. A fine and large sacristy opens from the south end of the transept, and the whole of the north aisle is bounded by a cloister of no great interest. The church was begun in 1250 and finished in 1280. Niccolo Pisano has been called its architect, but apparently without reason. The campanile is a century later. The church contains some of the most interesting monuments in Venice. (*See Fig. 240.*)

Sta. Maria Maddalena, a circular Renaissance church of the XVIII cent., built from the designs of Tommaso Temanza. Its interior diameter is about 52 ft., it has an order of six pairs of Ionic columns with rectangular niches in the intervals under round arches. The unbroken hemispherical dome has no drum, and is crowned with a circular lantern. In one of the intervals of the order is a great entrance doorway; in the opposite interval the open arch leads to a small square choir covered by a low dome, with a semicircular apse on each side. The exterior has an order of flat pilasters with blind arches between, under an attic which carries the flat-looking dome. At the entrance is an Ionic portico with two couples of columns and a pediment.

Sta. Maria dei Miracoli, called also Madonna dei Miracoli, a small early Renaissance church, with a singular façade of great richness, probably by Pietro Lombardo. It is in two stages, with a great semicircular gable covering the entire

front, and a central door. Each story is divided into five bays by engaged pilasters, Corinthian below, Ionic above, the former carrying an entablature broken over the pilasters, the latter carrying round arches. Two of the upper bays contain tall round-headed windows. In the other bays, both above and below, the wall is faced with slabs of white marble in which are inlaid patterns of red, yellow, black, and green marbles. The great gable has a group of round windows. The decoration is continued, but with less richness, on the sides. The interior is a single oblong hall covered by a richly panelled and decorated barrel-vault of wood, the east end raised by several steps above the principal floor, forming a presbytery enclosed by a balustrade, with an octagonal pulpit at each end. From the east wall of the presbytery opens the square sanctuary, by a round arch springing from an entablature over Corinthian pilasters, with similar arches on the side walls and at the east end, over the small apse. Over these four arches rises a dome on a low drum, covered by an external dome of wood. Under the sanctuary is the sacristy approached by a spiral stair in a small octagonal campanile. The church was begun in 1481 and finished in 1489. (*See Fig. 241.*)

Sta. Maria della Salute, one of the most familiar and conspicuous of the Venetian churches, was built in 1632 from the designs of Longhena, in accordance with a decree of the Senate, to commemorate the cessation of the plague of the previous years. Its plan is an octagon about 65 ft. in diameter, supporting a hemispherical dome on a high tambour, and surrounded by an octagonal aisle about 20 ft. wide, from each side of which, except the two in the longitudinal axis of the building, opens a shallow rectangular chapel. The dome is supported on eight massive piers carrying round arches, and in each angle is a detached column whose entablature makes the impost of one great statue. Each face of the octagonal tambour has two round-headed windows. The choir, opening from the easternmost face of the aisle, expands into a sort of transept, having a square central bay flanked by two apses and covered by a high dome. Behind it is a retro-choir, connected by a triumphal arch. The materials and decoration of the church are sumptuous. The exterior in white marble is imposing and picturesque, the west-



Fig. 241.—Venice, Sta. Maria dei Miracoli.



Fig. 242.—Venice, S. M. della Salute.

over the choir is flanked by two slender square campaniles, which with the two domes group picturesquely in any general view of the church. All the pediments, and even the scrolls surrounding the great dome, are surmounted by statues. The church is imagined to rest on more than a million piles, and is said to have cost more than half a million gold ducats. (*See Figs. 242, 243.*)

Sta. Maria Zobenigo, or dell' Annunziata, a Renaissance church built in 1680, on the site of three earlier churches dating from the v, vii, and x cents., respectively. The present structure is chiefly remarkable for its façade, designed by Sardi, and an example of the worst extravagances of the later Renaissance. It is in two stages, the lower divided into five bays by coupled Ionic columns on high pedestals, with a broken entablature, and enclosing in the middle interval a round-arched doorway, and in the others decorated niches containing statues. The same arrangement is

ern face of the octagon being emphasized by a portico of four Corinthian columns in form of a triumphal arch, with pediment and balustrade-course. The portico is approached by a broad and stately flight of steps from the canal. The chapels projecting from the surrounding aisle are treated in two stages: the lower stage with an order of four Corinthian pilasters with niches in the intervals containing statues, the upper with a large semicircular window flanked by pilasters and surmounted by a pediment. The tambour of the great dome is decorated with pilasters bearing an entablature and balustrade-course, and from the two pilasters at each angle of the octagon enormous scroll-buttresses project over the roof of the surrounding aisle, but the dome is said to be of timber. The lesser dome

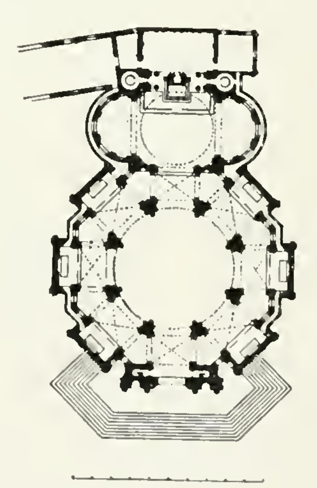


Fig. 243.—Venice, S, M della Salute.

repeated against the nave over the three middle intervals, the order being here Corinthian, and the centre occupied by a statue raised on a high pedestal which divides a sarcophagus, with a background of stone drapery. Above is piled a mass of architectural fragments — caryatids, statues, pediments, trophies, and the like. The baroco nave is lined with a broken order of Ionic columns, carrying a coved ceiling with lunettes. It is flanked by six lateral chapels, and ends in a square choir.

S. Moisè (St. Moses), a late Renaissance church rebuilt in 1688 by Tremignano, on the remains of two older churches, the first of the VIII cent., the second of the XV century. Little of the earlier work is preserved in the present structure, which is chiefly remarkable for its façade, in which the worst extravagances of the Renaissance are exemplified. The interior contains some notable pictures, among them one by Tintoretto.

S. Niccolò dei Tolentini, a conspicuous Renaissance church begun in 1591 by Scamozzi, from the designs of Palladio, who had died some years before. Its plan is peculiar in some respects, including a nave about 45 ft. broad, from which open three square chapels on either side, occupying the place of aisles, and connected with the nave by round arches in the intervals of a florid Corinthian order, from the entablature of which springs the barrel-vault of the nave with lunettes enclosing semicircular windows. The transept ends are two shallow bays continuing the line of the outer wall of the chapels, and from each projects a square chapel. The choir is a long, narrow rectangle. The crossing was to have been covered by a round dome, of which only the drum was built, now covered by a low conical roof. The front consists of a great Corinthian hexastyle portico, of the whole breadth and height of the church.

S. Salvatore, a Renaissance church begun in 1506 by Giorgio Spavento, and continued in 1530, under Tullio Lombardo. It is cruciform in plan, the nave and crossing divided into three square bays covered by high domes with lanterns, alternating with short bays covered by barrel-vaults. The square bays of the nave open into the aisles by lofty round arches springing from a high attic over an order of Corinthian pilasters, coupled, and divided by a narrow round arch under the entablature. The transept is short, square, and plain, with a single grouped window in each end; the nave and aisles terminate each in a round apse. The interior is one of the most beautiful in Venice, and measures about 175 ft. in length by 65 ft. in breadth. The façade, added by Sardi in 1663, has an order of engaged Corinthian columns with the entablature broken forward over the columns and carrying statues, and surmounted by a high attic divided by pilasters.

S. Stefano, a XIV cent. Gothic church, about 80 ft. wide and 170 ft. long. It is of basilican form, with nave and aisles each ending in an apse, and without a transept. The nave has a breadth of 48 ft., and is covered by a timber roof concealed within by a ceiling boarded in a series of cusps and decorated with color. The aisles are in six square bays set off into chapels, each domed. The main piers are slender marble columns with rather classic capitals, supporting pointed arches. The high choir is in two vaulted bays, ending like the aisles in a polygonal apse. The exterior is all in brickwork of admirable execution. The front has a square doorway enclosed by richly sculptured mouldings, and covered with a flat cusped ogee arch flanked with pinnacles and ornamented with immensely developed crockets resembling those of St. Mark's, and a statue in place of a finial. The east end has high windows with traceried heads. The island on which the church is built being too small, the choir

is bridged over a narrow canal to an adjacent island. A fine square brick campanile, much resembling that of the Frari, stands at the north of the choir. It has two stories of high arched panels, a belfry with three round arches in each face, and an octagonal stage above. The church has a cloister, added in about 1530: the church itself having been finished in 1325.

S. ZACCARIA was begun in 1457 as a Gothic church, and finished about 1500 with a Renaissance exterior. Its plan shows a nave in three square bays, the first two covered by groined vaults, the third by a hemispherical dome, and ending in a polygonal apse; and lofty vaulted aisles one-half the breadth of the nave, carried round the apse, with a ring of chapels outside. The nave columns are high and slender, and carry round arches and a clerestory with small arched windows. The wall

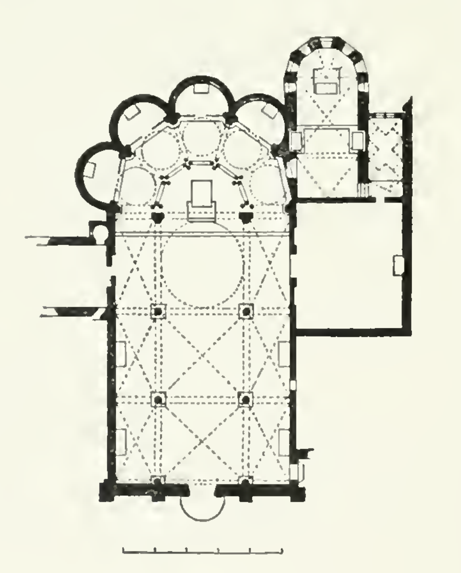


Fig 244.—Venice, S. Zaccaria.

of the choir and apse is in two tiers of arches, round below and pointed above, the upper arches being divided into lights by columns. The façade was evidently begun in accordance with the Gothic plan; its high basement—with the exception of the Renaissance doorway in the centre, with Corinthian pilasters and round pediment surmounted by a statue—shows in its panelling of red and white marble, and in its general decoration, a distinctly Gothic character. A second stage of narrow round arches carried across the whole front on slender pilasters, enclosing flat niches with a two-light window in the end of each aisle, indicates a period of transition. The upper portion of the front is frankly Renaissance, with its centre corresponding to the nave, carried above the sides and separated from them by detached coupled columns in three stages, resting on square buttress pilasters below, and with the entablatures broken round them. The nave and aisles are lighted by round-arched windows between pilasters or columns. The central division finishes with a high round pediment surmounted and flanked by statues; the side divisions with half-pediments of similar form. The church contains many fine pictures, among which is one of John Bellini's finest works. (*See Fig 244.*)

The SCALZI, the church of the Barefooted Carmelites (Carmelitani Scalzi), dedicated to Sta. Maria in Nazzareto, is a Renaissance building begun 1646, under the architect Longhena, and finished about 1689. The interior consists of a nave without aisles, but with three chapels opening from each side, and a *capella maggiore* occupying the place of the choir at the east end. The decoration is extravagant in style and materials. The façade, attributed to Sardi, is much more restrained, although still very rich. It is in two stages, the lower consisting of an order of Corinthian columns, coupled in six pairs, on high pedestals, with a broad arched doorway in the central interval, and in the sides round-arched niches with statues. The second story of the nave has four pairs of columns instead of six, finishing with a triangular pediment, with

an inner pediment of segmental form covering the middle interval, and is flanked by scroll buttresses which mask the roofs of the side chapels. The pediment is surmounted by five statues, and the whole front is built of rich marbles.

Scuola di S. Giovanni Evangelista, one of the smaller and less known of the Venetian Scuole. The buildings occupy three sides of a somewhat narrow court, open to the street, and closed at the opposite end by a screen ornamented with an order of Corinthian pilasters which run round the sides of the court, and of which the entablature is decorated with bas-reliefs of great richness and beauty. In the central interval is a broad square doorway with carved architrave; in the side intervals a single square window with pilasters carrying entablature and pediments. The interior has a sumptuous staircase hall and chapel with Corinthian columns on pedestals, carrying round arches with panelled and carved soffits, the walls inlaid with precious marbles. The building belongs to the school of the Lombardi, and dates from the second half of the XV century. It has been lately restored. (*See Fig. 245.*)

Scuola di San Marco, the home of one of the peculiar class of confraternities existing in Venice in the XV and XVI cents., of which the character was partly religious and partly charitable. The first building was burned in 1485. The present one was begun in 1490 by Martino Lombardo. It is one of the richest and most conspicuous of the Renaissance buildings of Venice, but is designed in an extravagant taste, more decorative than architectural, and in defiance of the rules by which the developed architecture of the Renaissance was governed. Its façade is of irregular height, with two stories divided into bays by Corinthian pilasters with broken entablatures. All of the bays are surmounted by semicircular gables, of which three are combined into a principal group, raised on an attic story, and crowned and flanked by statues. Of this portion the central bay in the lower story



Fig. 245.—Venice, Scuola di S. Giovanni, Interior detail.

is occupied by a square doorway with a round-arched head, enclosed between detached Corinthian columns carrying a broken semicircular pediment. The intercolumniations of this story are filled with reliefs in marble in simulated perspective. The intervals of the second story are in part occupied by arched windows flanked by an order of pilasters with pediment. Those of the attic are occupied by statues in decorated niches, in the centre the winged lion of St. Mark supported on five columns, and above is a semicircular pediment higher and broader than the rest and crowned by the statue of St. Mark. The remarkable feature of this façade is the extreme richness and beauty of its sculptural decoration. The pilasters, columns, and archivolts of the great doorway, the friezes and pediments in all the stories, and the members of the

windows and niches are covered with bas-reliefs of admirable design and execution, mostly attributable to Bartolommeo Buon and Tullio Lombardo. The interior has on the first story a hall divided by two



Fig. 246.—Venice, Scuola S. Marco.

rows of columns on high pedestals, and a fine double staircase leading to the upper hall and chapel, with richly decorated panelled ceilings in all the rooms. The building has since 1815 been made a portion of the civil hospital of Venice. (*See Fig. 246.*)

Scuola di San Rocco, the most generally known of the Venetian *scuole*, partly from its elaborate architecture, but more especially from the pictures of Tintoretto which it contains. It has three façades, of which the principal one, behind the church of the Frari, is divided into five bays by Corinthian pilasters on pedestals carrying full entablatures, broken forward over the pilasters. Of these five bays, three are principal, forming the front of that portion of the building which contains the great halls, and these are emphasized by detached Corinthian columns standing in front of the pilasters. Their central bay contains on the lower story a broad round-arched doorway flanked by columns with entablature and pediment; the other bays contain double arched windows in each story, with entablatures and pediments in the upper. The principal lines of the façade are continued on the side, but the architecture is simpler and without columns. The interior consists of two great halls one above the other, connected by a noble staircase with a domed ceiling and sculptured walls. The upper hall is about 125 ft. long and 43 ft. broad, with a height of over 30 ft. The building was begun in 1517 by Bartolommeo Buon, continued by Sante Lombardo, and finished in 1527 by Scarpagnino.

Torre del Orologio. The clock-tower, built about 1496 by Pietro Lombardo, is a conspicuous feature of the square of St. Mark at the eastern end of the Procuratie Vecchie, and forms the central portion of a building with a frontage of about 80 ft. encaged in clumsy pilasters and entablatures. The tower, about 100 ft. high, stands over a broad and lofty open arch, through which a street is carried. Above this, in successive stories, are a great sun-dial some 16 ft. in diameter emblazoned with the signs of the zodiac; then a tabernacle enclosing a sitting statue of the Madonna, and two square niches from which at certain hours four carved figures issue to do her reverence; and in the upper story a blue field with gold stars bears the winged lion of St. Mark. The tower is crowned by a balconied terrace on which stands the great bell with a figure of Vulcan, so-called, on either side, which is made to revolve and strike the hours with a hammer.

The Zecca, or Mint, is a Renaissance building begun in 1536 by Sansovino,

whose design was accepted after a competition. Its main front toward the sea is about 83 ft. long, and is of three stories, the lowest a basement of nine arches springing from plain piers with simple imposts, and walled up as high as the spring with rustic work, the arch-head being filled with semicircular windows. The second and third stories consist each of an order of engaged columns, Doric and Ionic respectively, with rustic shafts, the intervals occupied by square windows, those of the third story with pedimented caps. This façade is without any doorway, the entrance to the building being from the arcades of the Library adjacent. The cortile, by Scamozzi, is of similar architecture, the lower arcade of strong and heavy rustic work, the second story of round-arched windows with slightly projecting Doric pilasters between, on a balustrade-course; the third story with Ionic pilasters and entablature with simple square windows in the intervals. In the middle of the cortile is a well with flanking rustic columns and entablature, surmounted by a statue. Since 1870 this building has ceased to be used for its original purpose, and now serves as an exchange and chamber of commerce.

VENOSA, Italy.

Sta. Trinità. The Benedictine abbey was founded by Robert Guiscard near the end of the XI cent., and its church was consecrated by Pope Nicholas II. in 1159, according to an inscription on the walls. Toward the end of the XIII cent. the Benedictines resolved to enlarge their buildings, and they built a new church directly to the eastward of the old one, its side walls continuing those of the old church, and the apse of the latter projecting into the new nave. The two buildings form an interesting contrast in plan and design. The old church is a rectangle about 85 ft. wide and 120 ft. long, with a nave divided into four oblong bays by transverse round arches springing from square piers; the aisles, whose west wall recedes one bay from the front of nave, are for the most part divided into chapels. The broad transept is divided by two arches which continue the line of the nave arcades, and its central division has a semicircular apse of the full breadth of the nave. The ceilings are everywhere of wood. The floor of the transept is raised by several steps above that of the nave. There is a closed porch on the front, with a fine doorway, in which two compound piers with decorated mouldings and bases carry a lintel of the same character, covered by a pointed bearing-arch and low gable. The tympanum is filled with surface tracery of small horseshoe arches, and a diaper of Byzantine character. The inside sculpture is very varied and interesting. The church contains a plain marble sarcophagus, the tomb of Robert Guiscard. The newer church, which was never finished and which is now much overgrown, has a plan much like that of a northern church—a well-developed Latin cross, nave and aisles separated by pointed arches on columns, aisles in six square groined bays (the one on the S. W. occupied by the tower of the old church), a long transept quite undivided, with square ends, and a flat apse on the east wall of each. From the centre opens the square choir of the full breadth of the nave, with a semicircular termination, and the aisle carried round it and divided into groined bays, with three radiating apsidal chapels. Except in the aisles all the ceilings are of wood.

VERCELLI, Italy.

S. Andrea (St. Andrew), an early Gothic church, interesting from its wide departure in many particulars from the usual forms of Italian Gothic (*See Fig. 247*). It is cruciform, about 220 ft. long, and 120 ft. wide across the transept. The façade has a breadth of 102 ft., with two tall, square, and very slender angle towers, between which is a single low gable mask-

ing all the roofs. It is divided into three compartments by clustered pillars or buttresses rising to half the height of the nave vault. Each compartment has a deeply splayed round-arched doorway, with jamb columns and corresponding arch-mouldings. The tympana are charged with reliefs. Over the central doorway is a large wheel-window, with tracery of interlacing arches, and above this again are two ranges of arcaded galleries across the front. The side walls are plain, with well-marked buttresses, flying buttresses over the aisle roofs, and an open arcade below the cornice, divided into groups of five arches to each bay. The cornice of the clerestory has an arched corbel-table with interlacing arches. The transept arms are narrow, and flanked by angle-buttresses with pinnacles. They have in the lower stage two round-arched windows

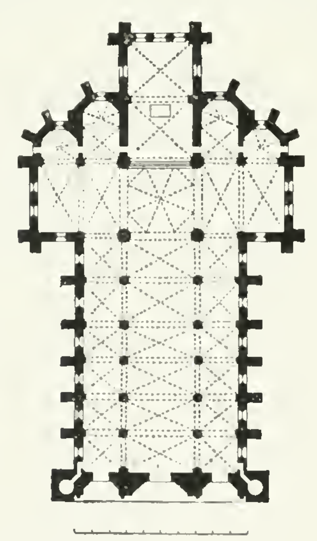


Fig. 247.—Vercelli, S. Andrea. Scale of 100 feet.

like those of the aisles, above which is a wheel-window like that of the front. Above this again, as in the front, are two ranges of arcaded galleries and a low gable with a pinnacle at the apex. The flanks of the choir are treated like those of the nave and aisles. The east end is square, a rare thing in Italy. An octagonal lantern rises from the crossing in two diminishing stages of blind arcades and round-arched windows, and terminates in a low octagonal spire of brickwork with small round pinnacles. It is in the interior that this church shows most clearly the influence of the northern Gothic. Its well-moulded nave arches are high and sharply pointed, and spring from clustered piers composed of a round core of brick surrounded by eight stone shafts, with large foliated capitals of remarkable character. Of these piers, the front members, forming a group of three shafts, run up through the clerestory to the spring of the very sharp-pointed brick vault, of which the ribs are stone and the crown is about 64 ft. above the pavement. The nave and aisles are of six bays, of unequal width, square in the aisles and oblong in the nave, as in the northern Gothic. The transept arms are square, in two oblong bays, from each of which opens to the eastward a small apsidal chapel. The choir is in two nearly square bays, its east end filled with a triplet of lancet windows with a wheel-window above, and having much the appearance of an English chancel. The floor is raised by four steps above that of the nave. The aisles and clerestory are lighted by small round-arched windows. The vaulted octagonal lantern at the crossing is carried on squinches, and surrounded at its base by an open gallery of narrow round arches. On the north side of the nave is a cloister from which opens a square chapter-house with a vaulted roof carried on piers. A detached square campanile, standing obliquely to the church, is of later date by two centuries than the church itself, which was begun in 1219 by Cardinal Bicchiere and is said to have been finished within three years, at the cost of ninety-five thousand gold ducats, by an English architect brought to Italy for the work—a

tradition not unreasonable, in view of the strongly northern character of the interior. The consecration took place in 1224. It is remarkable that some of the detail, particularly the capitals of the nave piers and a broad band of sculpture enclosing the tympani of the western doors, is of a marked Byzantine character.

VERONA, Italy.

The AMPHITHEATRE is probably of the beginning of the III century. The outer wall was damaged by an earthquake in 1184, and a great part of its stones was used as building-material, but since 1228 good care has been taken of the remains. Only four arches of the original seventy-two of the outer wall are standing, but most of the interior, with its vomitoria and its forty-four tiers of seats, is in good preservation. The general plan is that of the Colosseum at Rome, except that the Veronese amphitheatre is but three stories high and its decorative architecture is entirely Tuscan. The greater axis measures 506 ft., the lesser, 403 ft.; the axes of the arena are 248 ft. and 145 ft.; the height is 98 ft., the area nearly four and one-third acres. The material of the substructions is brick, of the superstructure, white and red Verona marble. The arena could be flooded, probably with water from the Adige, so as to be used for a naumachy. (*See Fig. 248.*)



Fig. 248.—Verona, Amphitheatre.

The BAPTISTERY, S. Giovanni in Fonte, is perhaps an old church converted to this use, and, unlike other Italian baptisteries in plan, is a small basilica. The nave and aisles end abreast in three apses, and the nave, unvaulted and prolonged westward beyond the aisles, opens into them through four small arches on each side, carried alternately on columns and square piers or pilasters. The walls without are laid in alternate bands of brick and stone, and the apses decorated with slender pilasters, as in the adjoining cathedral, and arcaded cornices. The building has been ascribed to the XII cent., but it is likely that it is much older, and was restored after an earthquake in 1122, at which time the aisles were vaulted and the font placed in the nave—a remarkable basin of red marble, 9 ft. across, adorned with reliefs and arched corbel-tables.

The CATHEDRAL (Duomo), dedicated to Sta. Maria Matricolare, is an originally Romanesque church of the XII cent., but substantially rebuilt, as far as the interior is concerned, in the XIV century. The nave and aisles are in five vaulted bays, with clustered piers of red marble and carved capitals carrying pointed arches. The choir is separated from the nave by a curved screen of marble, with Ionic columns and cornice, the work of Sanmicheli in 1534, who also built the interior of the choir and the line of chapels on the



Fig. 249.—Verona Cathedral, front

nave, over which the wall is rebuilt in stripes of brick and marble. Above the broken arcaded cornice which finished this façade rises the higher gable of the nave, of Renaissance detail. The south side has a two-story porch with interesting sculpture, and three projecting chapels, one square, the others semicircular, decorated by an order of flat Corinthian pilasters. The eastern apse is similarly treated. On the north side is an ancient cloister originally with two stories of arcades. The lower arcade remains — the arches rest on coupled columns of red marble, each pair being of a single stone. The Baptistery (*q. v.*) stands to the north and east of the choir, with which it is connected. (*See Fig. 249.*)

south aisle. The church, built in the first half of the IX cent., was much altered in the latter half of the XI and beginning of the XII, and reconsecrated after rebuilding the nave in 1187. The nave was vaulted in 1402; Sanmicheli's alterations were made in 1534. The façade of marble shows traces of most of these changes. The lower part belongs to the IX cent. and still shows bands of the original sculpture. The graceful two-story porch, with bold round arches on slender columns supported by griffins, and containing fragments of the older work, dates from the beginning of the XII century. So do the three tiers of shafted arcades which are interrupted by its upper story. Fragments of arcaded cornice show the low height of the original aisles, and are broken by tall two-light pointed windows which are contemporary with the

GRAN GUARDIA (Great Guard-house), a Renaissance building of serious and dignified design built in 1510 under Sanmicheli, or possibly one of his pupils. It has a long façade in two stages, the lower consisting of high narrow rustic arches springing from heavy piers, the upper an order of coupled Doric columns on a high pedestal-course. There are fifteen intervals, of which the five in the middle are filled with round arches, while the five on either side have square windows and a mezzanine above. The centre is carried up as an attic. The building is now used as a warehouse.

PALAZZO BEVILACQUA, an uncompleted XVI cent. palace from the designs of Sanmicheli, of which the façade only is notable. It is in two stages, the lower of rustic masonry with flat Doric pilasters, a bracketed cornice, and a series of round-arched windows interrupted by one similar doorway. Above this the second story,

the *piano nobile*, is faced with an order of rich Corinthian columns on a high balustrade, arranged like a repeated triumphal arch, with three great open arches alternating with four smaller ones with pediment caps, and small square windows above.

PALAZZO DEL CONSIGLIO (Council-hall), a Renaissance palace of the XV cent., with a delicately designed façade of two stories, the lower an open loggia of eight round arches on Corinthian columns standing on a balustrade raised over two plinths above the square. A thin entablature separates this story from the second, which is divided by an order of scattered Corinthian pilasters into four intervals, each containing a two-light window with round-arched openings separated by Corinthian columns and enclosed between Corinthian pilasters bearing an entablature and round pediment. The whole front is extremely rich in ornament, the wall spaces covered with a painted decoration, the pilasters with arabesques in relief; and above the cornice are statues of Latin writers claimed as citizens of Verona. The building is said to be the work of Fra Giocondo. (*See Fig. 250.*)

PALAZZO DELLA RAGIONE and palace of the Scaligers are an irregular pile of buildings dating from the XIII or XIV cent., surrounding the Mercato Vecchio, and adjoining sides of the Piazza dei Signori. The architecture is various—the most characteristic portions consisted of an arcaded lower story with very large open round arches carried on slight columns, and supporting a second story—likewise with an open arcade but of smaller pointed arches, with a balustrade between and reached by a picturesque open arcaded staircase in an angle of the court. Out of the roofs of these buildings rises a noble bell-tower, one of the finest in Italy, nearly 300 ft. high, its lower portion built with alternate courses of brick and marble, and continuing for the remainder of its height with simple brickwork, almost unbroken, until the belfry stage is reached. Here is a triple-arched opening in each face with round arches on coupled columns, with pointed bearing-arch of black and white voussoirs. Above is a thin projecting cornice on brackets, and a final octagonal stage with two stories of openings, the upper story having a two-light arched window in each face with pointed bearing-arch. This tower is said to have been built toward the end of the XII cent., by the Lamberti family. It came later into



Fig. 250. Verona Palazzo del Consiglio.

possession of the Commune, and in 1370 was brought to its present form.

ROMAN ARCH, which now spans one of the chief streets of the city, and called the Porta dei Borsari. It is a double archway ornamented in the upper stories with little columns, entablatures, and pediments, and is rather poor in design. It was built or restored by the emperor Gallienus, 265 A.D. Only one face now appears.

ROMAN GATEWAY, a double arch now known as the Arco dei Leoni. It is of light and elegant proportions, though a part has been destroyed. Its highest story was ornamented with small detached columns with twisted fluting. The architrave above the surviving arch, which is flanked by Corinthian columns, bears an inscription. This monument is nearly contemporaneous with the Porta dei Borsari.

STA. ANASTASIA, a Gothic Dominican church of the XIII cent., about 300 ft. long and 75 ft. broad, with nave and aisles of six bays, those of the nave nearly square, those of aisles oblong, transept and choir of a single square bay, terminating in a decagonal apse. From each transept arm two chapels open on the east side, each with a small polygonal apse of four sides; from the north arm opens a sacristy in two vaulted compartments, of which the easterly one terminates in an apsidal chapel. The nave piers are round and carry obtusely pointed brick arches with plain unmoulded edges. Flat pilasters rise from the capitals through the clerestory to take the vaulting ribs of the nave. The whole church is groined. The clerestory is pierced with small round windows with plate tracery. The walls and vaults are painted and adorned with patterns of flowers and foliage on a white ground. The pavement is of white, red, and gray marbles in geometrical patterns. The exterior is of red brick roughly laid, with brick cornices, pinnacles, etc. The unfinished front has a fine doorway of parti-colored marbles, with a fresco in the head of the arch. The aisle windows are pointed, of two lights, with trefoil and pointed bearing-arch. In the angle of choir and north transept is a square brick campanile with octagonal spire. The church was begun in 1290, but was not finished until 1422. Balanced on the wall of the cemetery adjoining the façade is the tomb of Castelbarco, called by Mr. Ruskin the most perfect Gothic sepulchral monument in the world, a square four-gabled canopy of four pointed arches on graceful columns, covering a sarcophagus carved with a recumbent figure, and surmounted by a clumsy pyramid.

S. FERMO MAGGIORE, a Gothic church without aisles, with a nave some 50 ft. wide and of equal height, from the east end of which three broad arches open into a chancel flanked by two aisles, and ending in a polygonal apse. The nave has a wooden ceiling, cusped and boarded, divided into panels and decorated in color. The transept is of small projection and without marked features. A remarkable crypt of unusual height extends under the eastern portion of the church, with square piers supporting a groined vaulting of brick. The crypt was formerly painted throughout, and traces of this decoration are still to be seen on walls and roof, and even on the piers, the larger of which bears a figure on each face. A marble pulpit is corbelled out from the south wall of the nave with sculptured canopy over it, and surrounded by wall paintings. The façade is in two principal stages: the first of marble with a large round-arched doorway in the centre with deeply moulded jambs, and approached by a flight of some sixteen steps. On either side are two stories of blind arcades cusped and pointed, the lower continued round the north side of the church, the upper on engaged and coupled shafts, including a pair of windows.

Flanking the doorway on either side is an arched and gabled canopy, that on the north supported on shafts, and covering a sarcophagus resting on corbels and bearing a recumbent figure. The upper portion of the front is of alternate bands of brick and marble, with a group of four tall cusped and labelled lancets in the centre, above which is a three-light window covered by a pointed bearing-arch, and flanked by small round windows. The angles of this fine front are marked by the angles. Of the original church the crypt still remaining is believed to date from 755. The present church belongs to the early years of the XIV century. (*See Fig. 251.*)

S. Lorenzo, one of the oldest churches in the city, is a three-aisled round-arched church, with round apses at the end of nave and aisles, and may date from the IX or X century. It has the Lombard peculiarity of double bays, with alternate piers and columns. The two-storied aisles have



Fig. 251.—Verona, S. Fermo Maggiore.

tall square buttresses, undivided through their entire height, and terminating in grouped pinnacles. A single rather low gable covers the whole, with a rich cornice and arched corbel-table and a pinnacle at the apex. The side-walls are of brick with a deep rich cornice and a panelled parapet above, and broad pointed windows high in the wall. On the north side is a fine projecting porch, with broad pointed arches supported on columns. The apse has gables over each face with pinnacles between, and a round cusped window in each gable. A tall brick campanile stands on the north side of the choir, with a round spire and pinnacles at

groined vaulting in both stories, and the nave a continuous barrel-vault, presumably late. Against the last eastward bay but one the aisles are doubled, making a quasi-transept, which however does not appear in the nave. A cross gallery at the west end, added, it would seem, after the first building, connects the upper aisles. The exterior is of primitive character, banded in brick and stone, and the front, although altered, retains its original peculiarity of two round flanking towers between which is a low gable, pierced with a round window over three arched windows, and a square-headed doorway below. The columns of the interior are apparently an-

tique, but have mostly later capitals and bases. The arched windows are single in the clerestory and altered in the aisles.

S. Stefano (St. Stephen), believed to be the oldest church in Verona, and to have been built as a Christian basilica, in 524, but much rebuilt in later times. It has a narrow nave with side aisles, separated by four square piers on each side, carrying round arches, upper walls unpierced by windows, and a wooden ceiling. There is a proper transept, yet the easternmost bay of the aisles is separated by an arch from the rest, answering to a transept, and over the crossing is a dark dome covered by a low octagonal tower. The choir, consisting of the two eastern bays of the nave, is raised by fourteen steps above a crypt, and terminates in a semicircular apse, round which a narrow vaulted aisle is carried, with four piers separating it from the choir. The crypt, probably original, is singularly arranged in transverse aisles across the whole church, and is divided into groined bays by eight rude columns about 7 ft. high. The façade, of brick and marble, has a central doorway with two buttresses at each side and two round-arched windows.

S. Zeno Maggiore, one of the noblest examples of Lombard architecture, is a great basilica, with broad nave and aisles, but no transept; the nave prolonged by a choir of a single square bay, ending in a half-decagon apse. The nave is in five square bays with massive grouped piers, from the capitals of which engaged shafts rise through the high clerestory to the roof. Of these shafts the pair nearest the west end of the church is connected by an arch thrown across the nave, the others disappear in the woodwork of the ceiling, which is arched and boarded, its section being a cusped round arch, and its surface painted. The aisles also are ceiled with wood in the form of a simple lean-to, not painted. The bays of the nave are subdivided each by two round arches carried by a single marble shaft with curiously sculptured capital. Above these arches the clerestory wall is of unusual height, in alternate courses of brick and marble, and with a single tall window in each bay. The ritual choir is extended into the two eastern bays of the nave, from which the choir proper, of later construction, consisting of a single square groined bay with its apse, is separated by a high pointed arch. The floor of the choir is raised some 8 ft. above the nave, its front being protected by a balustrade of colonnettes with statues on the pedestals, beneath which are three great round arches occupying the whole breadth of the nave, separated by coupled marble columns, and giving access by broad descending stairs to a spacious and lofty crypt. In each aisle are two similar arches, while staircases on each aisle wall ascend to the floor of the choir. The crypt is divided into aisles by rows of red marble columns carrying groined arches, and in the centre is the shrine of the saint. The interior walls of the church, and even its piers and columns, were extensively painted with figure subjects, of which traces yet remain, particularly in the apse and eastern portion of the choir, where the decoration was most elaborate, and has been carefully renewed. On the north side of the choir is a fine cloister, with arcades of pointed arches on two sides and of round arches on the other two, the arches and the wall above of simple brick-work, supported on slender coupled red marble columns, with capitals and bases of white marble and standing on a low wall of stone. The exterior is of red brick with frequent courses of stone, except the front, which is of stone and marble. The side walls are divided into bays by triangular buttresses, both on the aisles and clerestory, the upper portion finishing with an arched corbel-table. The façade is in three divisions corresponding to the interior disposition. The central division has a broad doorway, under a slightly pro-

jecting porch, with rude sculpture, consisting of a round arch springing from tall columns resting on lions. In the centre of the wall above is a large wheel-window, evidently a later insertion. An arcade of small coupled round arches divided by slender coupled columns runs across the front at the height of the arch of the porch. The whole wall is panelled by pilaster-strips which terminate in an arched corbel-table following the rake of the cornice. In the central division these panels are divided by horizontal corbel-tables above and below the wheel-window, and the lowest range of panels, on each side of the porch, is filled with archaic sculpture. The doors are believed to be as early as the IX cent., and are admirable examples of the art of that period. The wooden frame is covered with thin plates of bronze, with reliefs representing a great variety of subjects, mostly scriptural. The fine detached bell-tower on the south side of the church has four stages of plain wall divided by corbel-tables and pilasters, the wall being in alternate courses of brick and white marble. There are two ranges of triple arcades in the belfry stage, surmounted by a round brick spire between four pinnacles. The original church was built in the IX cent., by Rotaldus, bishop of Verona, with the authority of Pipin, the son of Charlemagne, deputed by that monarch to govern his Italian province. Portions of the early church remain. The western bay, which has triple arches between the piers instead of double, and is cut off from the rest of the nave by a cross-arch, may be a part of it, but it was enlarged and practically rebuilt in the XII century. The choir is later, dating from 1421 to 1430. The whole church has of late been carefully restored. (*See Fig. 252.*)



Fig. 252.—Verona, S Zeno.

TOMBS OF THE SCALIGERS, a remarkable group of monumental tombs in the small cemetery in front of the little church of Sta. Maria Antica, dating from 1329 to 1375, and commemorating various members of the family which ruled Verona in the XIII and XIV centuries. The earliest is the tomb of Can Grande I., which is

built over the doorway of the church. A slab of marble supported on corbels on either side the doorway carries a sarcophagus resting on the figures of mastiffs, ornamented with bas-reliefs, and bearing the recumbent figure of the duke. Covering it is a canopy of pointed, cusped, and gabled arches, supported on shafts of marble, and crowned by a truncated pyramid, on which stands the equestrian statue of Can Grande. The monument of Mastino II., at the angle of the cemetery, consists of a square raised basement upon which stands an arched canopy on four columns. At the angles are little arched canopies on shafts, like the monument in miniature, containing figures of saints. Above the gables rises a crocketed pyramidal roof, supporting the figure of the duke on horseback. Under the canopy is the sculptured sarcophagus bearing the recumbent figure of Mastino. The monument of Can Signorio, the largest and most ambitious of all the group, stands within a hexagonal enclosure formed by a panelled marble fence some 5 ft. high, at the angles of which are panelled piers bearing tall shrines, each with four shafts supporting an arched and gabled canopy with pyramidal spire, and enclosing the figure of a saint. These piers are connected by a wrought-iron fence. The monument itself is hexagonal, and in two stages; the first of clumsy Corinthian angle-columns supporting the platform on which rests the sarcophagus, elaborately decorated with bas-reliefs in panels, and bearing the recumbent figure of the duke. The second stage has heavy angle-shafts bearing pointed and cusped arches, with a horizontal cornice above. Over this rises a truncated spire, surrounded by gables covering niches and statues, with pinnacles at the angles. The spire carries a heavy hexagonal pedestal on which stands the equestrian statue of Can Signorio. The structure, of great height and lavishly decorated, shows a marked decline from the older and simpler monuments of the group. The cemetery is enclosed on its two exposed sides by a beautiful wrought-iron fence on a panelled stone basement, with square stone piers at intervals bearing figures of saints.

VETRALLA, Italy.

S. Francesco is a simple basilica with one apse, consisting of six bays and a sanctuary that does not project. The exterior is plain and has but one doorway, the round-headed windows are small; the style is that of the xi century. The transept and apse seem older than the nave, which is very lofty and is separated from the aisles by high slender columns with large foliated capitals, similar, on a smaller scale, to those in the cathedral of Viterbo. [A. L. F., Jr.]

VICENZA, Italy.

The Basilica, called Palazzo della Ragione (or Town-hall), a singular instance of a Gothic public building which has been externally transformed to suit the Renaissance taste of a later age. It resembled the great hall at Padua, though smaller, being about 75 ft. wide by 165 ft. long, with a lower story partially open to the street. Two lines of piers and arches divide the interior and support the floor of the hall, which is in the second story, with rather low walls pierced by broad pointed windows with moulded jambs, and the upper portion of the wall faced on the outside with a diaper of parti-colored marbles, similar though inferior in design to that of the Ducal Palace at Venice. The hall is approached by an exterior staircase with balustrade of marble. The building is thought to have been completed in this form before the year 1494. But it was soon considered to be in a dangerous condition, and various projects for its reconstruction were entertained. In 1546, Palladio and Giulio Romano were employed to submit models in competition. The former was successful, and by him the building was enclosed with two ranges of stately arcades, concealing nearly the

whole of the original walls, which are among the most beautiful works of Renaissance architecture. They are composed with two complete orders of col-



Fig. 253.—Vicenza, Basilica.

umns, Doric in the first story and Ionic in the second, with balustrades, the pedestals of the upper balustrades bearing statues. Each broad intercolumniation in both stories is filled in with what has been called the Palladian motive—an arch resting on smaller columns with a square opening on each side. The whole effect is extremely rich and festive. The interior of the great hall retains its ancient wooden roof of high pointed timber arches painted black and white, dividing the carved surface into vertical panels. Like that of Padua, of which this was doubtless a copy, the roof, instead of being enclosed by gables at either end, is hipped from the four corners. (*See Fig. 253.*)

The Cathedral (Duomo) is mentioned in the xi cent., but was enlarged in 1263–83 into a Gothic church with a broad nave in four square bays. Beyond, the eastern bay is covered by a polygonal dome, and intermediate piers divide the aisles into square chapels, two of which correspond to one bay of the nave. The choir, raised over a high crypt and approached by a broad flight of steps in the centre, with stairs descending on either hand to the crypt, fills the domed bay. There is no transept. The exterior is of brick. The front is covered by a single broad gable, and has in the lower portion a blind arcade of stone with a central doorway and pointed windows—and a rose above.

Palazzo Barbarano, a Renaissance palace built in 1570 from the designs of Palladio, with a stately façade of two stories of square-headed windows and an attic. The lower story, rusticated, has an order of Ionic half-columns with seven intervals, the central one filled by an arched entrance. The second or principal story has an order of three-quarter Corinthian columns; its windows have balconies and pediment caps alternately triangular and segmental, with reclining figures, and are bordered with sculptured flowers and fruits in high relief. The friezes of both orders are decorated with sculpture, and the front shows a singular reversal of the ordinary proportion, in that the upper or Corinthian order is considerably shorter than the Ionic below. The attic has plain square windows with pedestals between, supporting a line of statues.

Palazzo Chieregati, now the Museo Civico, a Renaissance palace built by Palladio in 1566. It has a long façade of two orders, Doric below, Ionic above, and with a somewhat singular disposition. The centre, including five intervals, projects slightly and is marked by coupled columns at the extremities. In the lower story an open loggia runs the whole length of the front, slightly raised above the ground; in the upper the wall of the cen-

tre only is brought forward over the columns below and faced with three-quarter columns, enclosing high windows with balconies and pediment caps alternately triangular and segmental, above which, under the entablature, are the small square windows of a mezzanine. Contrary to Palladio's habit, there is no attic. The palace is now used as the museum of the town.

Palazzo della Ragione. See *Basilica*.

Palazzo Tiene, an ambitious Renaissance palace of rustic work in stucco, built from Palladio's designs in 1566. It has a long façade of two stories of square-headed windows and an attic, with slightly projecting pavilions at the angles. The basement windows are covered with blind arches; the second or principal story is faced with an order of Composite pilasters on a balustrade course, the windows decorated with Ionic columns whose outline is almost concealed by heavy rustic blocks with pediments. A decorated band joins the capitals of the pilasters, which support a thin entablature. The low attic is broken by pedestals supporting a line of statues. The court is a fine composition with two stories of open arcades, the first very plain, of rustic masonry, with rough piers; the second, elegant, with an order of Corinthian pilasters, the intervals filled with plain round arches with a delicately moulded archivolt and a rather thin balustrade.

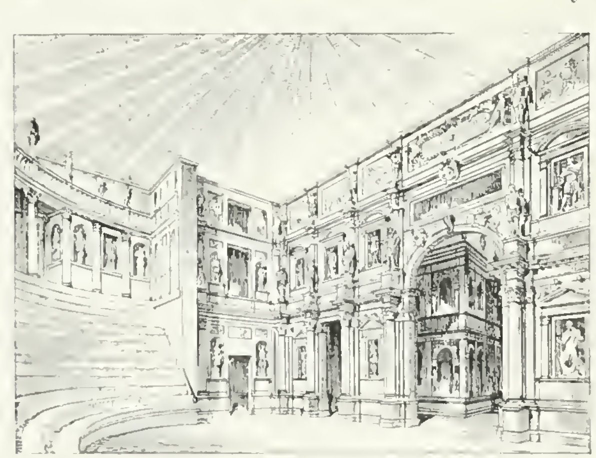


Fig. 254.—Vicenza, Teatro Olimpico

Palazzo Valmarana, a Renaissance palace built by Palladio in 1566. Its façade has some striking peculiarities of design. It is in two stories of square-headed windows, the lower story having a full order of pilasters with a balustrade crossing the windows above, and a high arched door in the middle. This front is encaged in a single order of great Corinthian pilasters running up through both stories, their entablature furnishing the main cornice, with an attic over it. The basement is broken to form a pedestal for each of these pilasters, and the attic above them also to carry statues; but they are strangely omitted at the corners.

S. Lorenzo, a large brick church, originally Romanesque, remodelled in Gothic form about 1280, with nave and aisles, large transept and choir. The nave arches are carried on round columns with coarsely carved capitals, and above is a clerestory with small round windows. The ceilings are groined. The church contains the tomb of Scamozzi, with his bust. The exterior is of brick with the exception of the lower portion of the front, consisting of a blind arcade of seven high pointed arches, of which the three central ones are occupied by a pointed doorway, flanked on either side by canopied tombs of the XIV century. This story finishes with a corbel-table, above which the wall is of brick, covered by a single low gable with a great rose-window in the centre, and five smaller round windows following the rake of the cornice. The side elevations seem to show a northern influence, the aisle walls being divided into bays each with a pair of

simple lancet windows with trefoiled heads, and a small round window above. A tall square brick campanile stands east of the north transept.

La Rotonda. See *Villa Capra.*

Teatro Olimpico. This famous theatre, built in 1584 from the designs of Palladio, was an attempt to reproduce the classic theatre of Greece and Rome. It consists of an auditorium under an awning, in the form of a semi-ellipse, its longer diameter being about 97 ft., and its depth from the stage about 57 ft. There are fourteen ranges of seats for the spectators, following the curve of the ellipse, and above these the auditorium is encircled by a screen decorated with an order of Corinthian columns, a portion of the intervals opening from the theatre, the remainder filled with niches enclosing statues. The scene, about 60 ft. broad, is an architectural composition of two orders of engaged Corinthian columns on balustrade-courses, surmounted by a high attic with bas-reliefs. In the lower order the middle interval has a high open arch, and two others on the side have square openings, through which are seen streets and squares of stately architecture constructed in sharp perspective, ending each in a triumphal arch, which at a distance of 40 ft. from the spectator looks 400 ft. distant. The theatre is to be regarded rather as a skilful and ingenious conceit than as a building of practical utility, and has been long disused. (*See Figs. 254, 255.*)

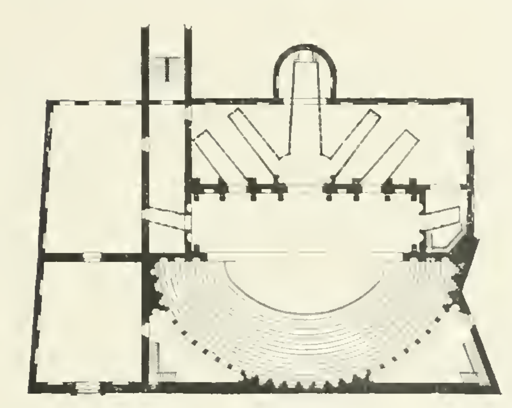


Fig. 255.—Vicenza, Teatro Olimpico.

Villa Capra, called La Rotonda, one of the most famous of Palladio's minor buildings, a country-house in the suburbs of the town. Its plan is a square of about 70 ft. with a projecting portico on each side, consisting of six Ionic columns about 22 ft. high, with entablature and pediment. The building stands on a high basement, and the porticoes are reached by broad flights of steps. There is but a single story, surmounted by a low attic. The interior has a central rotunda about 30 ft. in diameter, occupying the whole height of the building, encircled by a balcony at the level of the ceiling of the principal rooms, and terminating in a hemispherical dome without windows. The building is planned and designed with exclusive reference to exterior symmetry, and has been extensively copied in



Fig. 256.—Vicenza, Villa Capra.

the country-houses of England and other countries. (*See Fig. 256.*)

VITERBO, Italy.

The CATHEDRAL is a Romanesque basilica dating from about 1100. Ten pairs of marble columns, their capitals richly carved with human figures and monsters in Lombard style, divide the nave and aisles, and carry a corbelled string-course above the arches. It was restored, round-vaulted, and increased with chapels, in the XVII cent.; and has a handsome bell-tower of the XIII cent., banded in black and white marble, with traceried windows. The fine tessellated floor, in *opus Alexandrinum*, is part of the original basilica. The modern façade, with pilasters and scroll-buttresses, is delicately treated.

S. GIOVANNI IN ZOCCOLI is a remarkably good instance of the late Romanesque style of the northern part of the Roman province, when influenced both by Tuscany and Lombardy, producing a result more harmonious and beautiful than the Lombard, more simple and broad than the Tuscan. It is a simple three-aisled basilica without transept. The length of the church is 90 ft. and its width nearly 50 ft. Its interior consists of five bays, the last being a raised choir supported by slender piers. The rest of the supports are very delicate columns built up of local stone, like the whole of the church. Their capitals are narrow and flaring, more primitive and less elegant than those in the cathedral of Orvieto: no two are alike, and the foliage is worked in high relief and sharp outline, producing strong effects. The five great arches of the interior recall Sta. Maria at Toscanella, but are more nearly Lombard in form. The interior is covered by a wooden roof and is lighted by ten round-headed windows. [A. L. F., Jr.]

S. SISTO belongs to the late Romanesque style. It is a basilica with three apses and no transept. The nave is supported on each side by four high columns and a grouped pier toward the transept. Its delicate columnar style shows the influence of Tuscany. The groined-vaulting over nave and aisles is recent, their original covering having been a wooden roof. The most remarkable part of the church is the choir, which appears to have been built in about 1300, after the nave and aisles. It is reached by a high flight of steps and consists of two bays whose vaults reach to nearly twice the height of the main body of the church. These are tunnel-vaults; three of them, those over the aisles and the one in the nave next to the apse, run parallel with the axis of the church: that over the central bay next to the nave runs transversely, and thus receives the thrust of the others. This arrangement is interesting, and so unusual as to be unique in this part of Italy. The two piers at the entrance of this choir are oblong, with engaged columns and pilasters; the central support of the choir on each side is an immense column whose capital resembles strongly those in the cathedral of Orvieto. [A. L. F., Jr.]

VOLTERRA, (anc. Volaterræ), Italy.

The BAPTISTERY is a small octagonal building of two stories, dating probably from the IX cent., but rebuilt in the XIII, with rude pilasters at the angles, a thin projecting cornice, and a low octagonal dome. The walls are of black and white marble in alternate courses. On one side of the octagon is a round-arched doorway with some interesting sculpture, on the other sides single narrow round-headed windows. The interior has a fine octagonal font by Sansovino, and a beautiful ciborium by Mino da Fiesole dating from 1471.

The CATHEDRAL, originally a small Romanesque church, consecrated in 1120 by Calixtus II., was enlarged in the middle of the XIII cent., and made into a Latin cross by adding a transept with a projecting choir. Niccolo Pisano is credited

with the alteration, or at least with the façade, which is dated in 1254. This resembles the fronts of Pisa and Lucca; it has three round-arched doorways and arcaded galleries above, with three round windows and a central gable. The church was considerably altered within in 1570, by Cipriani, covered with a flat ceiling, and the choir altogether modernized. It contains a marble pulpit, apparently of the end of the XII cent., supported on four granite columns which rest on the backs of lions, and adorned with reliefs somewhat in the style of Niccolo, but of inferior sculpture. There is also a font of similar style ascribed to one Master Stefano in 1245.

Palazzo Belforti, a private palace probably of the XIV cent., with a fine simple façade of stone in four stories, some 65 ft. broad and 70 ft. high. The first story has three high, broad, pointed-arched doorways; the three upper stories have each a range of two-light windows with round-arched openings separated by a slender column, and a round bearing-arch. The front is quite unbroken by any string-course or moulding up to the cornice, which consists of a strong arched corbel-table and round-topped battlements.

Palazzo Pubblico, a well-preserved building of the XIII cent., with a frontage of about 100 ft. and a depth of 65 ft. The façade is of stone in four stories, with a plain pointed-arched doorway in the centre at the level of the street, and at the side two similar but smaller doorways opening on a raised terrace, formerly serving as a *ringhiera* or balcony from which the magistrates addressed the people. The three upper stories, substantially alike in design, have all two-light windows, divided by slender columns and covered by pointed bearing-arches. The front is finished with a line of semicircular battlements. A low tower rises from the front wall, with arched corbel-table and battlements, above which was originally a belfry consisting of four massive columns carrying an entablature, which has now disappeared.

Porta all' Arco, an ancient Etruscan arched gateway in the city walls, surrounded by mediæval work, with which its massiveness forms a striking contrast. It is a double gateway, with about 30 ft. between the entrances, which are connected by walls of huge squared blocks. The exterior arch bears three large human heads in the round, one on the keystone and the two others at the springing on each side. The moulded imposts are almost Greek in character. The inner arch more resembles Roman work, and shows mediæval restorations.

The Etruscan Walls can be followed through a great part of their circuit of about four miles, though in large part incorporated with later fortifications. The masonry is approximately rectangular, much of it in very large blocks, and there are very impressive stretches of wall. Besides the Porta all' Arco (*q. v.*), there is another Etruscan gateway, also double, of precisely similar plan—the Porta di Diana, which, however, is not well preserved. Within the walls are remains of a Roman theatre, and of a piscina. The latter is underground, and consists of three lofty parallel vaults supported on square piers. The piers are braced together beneath the vaults by flat arches. Without the walls are extensive ruins of Roman thermæ, with masonry of brick and rubble, marble incrustation, and mosaic pavements, and an important Etruscan necropolis.

VULCI (anc. Volci), Italy.

Ponte della Badia, a grand ancient aqueduct bridge spanning a deep ravine at the bottom of which flows a stream. It consists of a single splendid arch 96 ft. high by 62 ft. in span, with huge abutments of masonry, one of which is pierced by a small arch. The masonry shows that the original construction of the bridge was Etruscan, and that the existing arches are

Roman. Huge sheets of stalactites hang over the wall of one of the abutments, projecting about 7 ft. from the wall and descending 20 ft.; producing a very strange effect, like a petrified waterfall.

XANTHUS, Lycia, Asia Minor.

Harpy Tomb, so-called, a square pier 16 ft. high, the top of which was surrounded by the famous frieze, above which is a projecting cornice surmounted by a square die. The sculptures have been removed almost in their entirety to the British Museum. The frieze consists of scenes of adoration and religious ceremonial, with which are interspersed four winged figures with the busts of women and the tails and feet of birds, each bearing tenderly a small human form. The earliest investigators mistook the winged figures for Harpies; they are in fact, no doubt, beneficent genii, and the human forms which they bear represent souls. The sculpture is archaic in style, but has much charm.

Nereid Monument, so-called, held to be the tomb of a Lycian prince or Persian satrap named Pericles, whose ornamental features have been transported almost entirely to the British Museum. It is a double cella with entrances *in antis*, surrounded by an Ionic colonnade of four columns on the fronts and six on the sides, the capitals of which, though much heavier, present analogies with those of the Erechtheum at Athens. There is no frieze in the entablature, the architrave of which bears reliefs like that of the temple at Assos. The date is later than 370 B.C. The chief frieze of the high basement represents a combat of horse and foot-soldiers; the second frieze, of oriental character, portrays the siege of a town; the frieze of the cella shows banquets and sacrifices; the sculpture of the exterior architrave represents hunting-scenes and the offering of presents to a satrap. The pediments were also filled with sculpture, and the acroteria were small statues. In the intercolumniations of the peristyle were placed the so-called figures of Nereids to which the monument owes its usual name. The style of the sculpture is an imitation of the Attic, with manifest signs of oriental influences.

Theatre. The auditorium is in good masonry and in very fair preservation, though much overgrown with trees. Portions of the stage-structure are standing to a certain height. The profile of the seats displays a curve outward in the rise, with a plain square edge above, and a depression at the back for the feet of the spectators of the tier above. There are in the cavea some thrones of honor, with backs, and lions' feet in front.

YAHKLI (Euromus), Caria, Asia Minor.

Temple, in a recess of the hills about eight miles north of Melassa. It is Corinthian, peripteral, hexastyle, with eleven columns on the flanks on a stylobate of three steps. The plan measures about 45 ft. by 95 ft.; the diameter of the columns is at the base about 3 ft., at the neck $2\frac{1}{3}$ ft.; their height is 27 ft. The columns rest on square plinths and have on the shafts panels inscribed with the names of the donors. Both pronaos and opisthodomos had two columns *in antis*. Parts of the cella wall and sixteen columns, five of them in the rear façade, remain standing, with portions of their entablature. The columns on the south side are not fluted. The workmanship is good, though the mouldings are somewhat heavy.

ZARA, Dalmatia.

The Campanile is a fine XII cent. tower of a type common in Italy. Square in plan, it rises straight and unbuttressed to the top, and is capped by a low pyramidal roof. The different stories have groups of round-arched windows with mid-wall shafts, increasing in number toward the top stage and set in shallow panels between flat pilasters. According to an inscription the tower was built in

1105, by King Coloman of Hungary, to commemorate his triumphal entry into Zara in that year.

The CATHEDRAL (Sta. Anastasia), dates from the XIII cent., and is one of the best examples of Dalmatian architecture. It is a basilica of unusual proportions, the nave being three times as wide as the aisles. The interior dimensions are about 160 ft. by 60 ft. On each side of the nave are four round arches supported on piers alternating with columns, with a single bay beyond at each end. The piers have engaged shafts with heavy cushion capitals, and pilasters facing the nave. The columns are of antique marble with debased Corinthian capitals. The piers at the entrance of the choir have grouped columns with capitals of Corinthian type rudely imitated from Roman work. The separation between nave and choir has been further marked in modern times by a stucco arch and other work which conceals the piers. The round arches of the triforium rest on square piers and have alternate voussoirs of white and red. Between the piers is an arched balustrade; above are clerestory windows. The nave ends in a semicircular apse beneath which is a spacious crypt. A marble seat for the clergy runs round the apse, with a dado of red breccia, and the bishop's throne in centre. The choir contains a high altar surmounted by a rich marble baldacchino, square in plan, with pointed arches on columns of cipollino marble and capitals imitated from the classic. A Lombardic inscription dates it 1332. The elaborately carved choir stalls are Venetian work of the XV century. The exterior of this cathedral, built of a compact white limestone like marble, is the finest in Dalmatia. The lower part of the façade is a plain wall pierced by three round-arched doors with sculptured tympana and jamb shafts. Above these the whole façade is covered with tiers of arcading which recalls the churches of Pisa and Lucca. The lower capitals are Romanesque, while in the three upper arcades they are later in character and the shafts are coupled. Two rose-windows, one over the other and of different ages, ornament the façade. The north wall has an arcaded gallery. The building was probably begun in the early part of the XIII cent., on the site of an older church. It was consecrated by Archbishop Lorenzo Periandro in 1285, but the façade, according to an inscription on it, was not built until 1324. On the south is the sacristy, an apsidal building older than the cathedral, and an old hexagonal baptistery which contains a circular chamber with a dome 20 ft. in diameter, surrounded by six apses covered by semi-domes.

The CHAPTER HOUSE of Sta. Maria, adjoining the conventual church, dates from the founding of the convent in 1066. It is a hall 36 ft. by 18 ft., covered with a barrel-vault springing from an enriched string-course carried all round, and strengthened by four cross-ribs supported on vaulting shafts. At the west end a stairway leads to an upper chapel which looks into the chapter house through an arched window. This chapel has a vault crossed by diagonal ribs springing from detached corner columns with cushion capitals.

PORTA MARINA, or di S. Crisogono, a Roman single arch with a Corinthian pilaster on each side upholding an inscribed entablature. It formerly bore statues, but these are gone, and a Venetian inscription occupies their place.

S. CRISOGONO, a fine Romanesque church of the XII to the XV century. The plan is basilican, with nave, side aisles, and three semicircular eastern apses. The nave measures 90 ft. by 25 ft., with seven bays; the whole width is about 52 ft. The pier arches, as in the cathedral, spring alternately from grouped piers and from columns. The columns are of marble with early Romanesque capitals.

The ceilings are of wood. The exterior is better preserved and finer than the interior. The main apse is ornamented by an open gallery whose arches rest on slender round columns with cushion capitals. The south wall of the church has a shallow round-arched arcade with coupled spiral columns. All this work is undoubtedly of the XII century. The central part of the façade, of later date and inferior design, belongs probably to the XV cent., to which some authorities assign the whole building. Across it, above the doors, is an arcade of round arches upon slender coupled columns, with shallow niches behind. The church was originally that of an ancient abbey dedicated to S. Antonio. In 649 it was rededicated to S. Crisogono. Rebuilt in 986, and again by Archbishop Lampridio in 1175, it was last consecrated in 1407, to which time the central part of the front probably belongs.

S. Donato, adjoining the cathedral, once the Holy Trinity, is a two-storied round church, which dates from the IX cent., and is commemorated in the writings of Constantine Porphyrogenitus. It is of the type of S. Vitale, at Ravenna, and the cathedral of Aix-la-Chapelle, but is smaller and inferior, the workmanship being very rude. It is interesting from its age and history, and as the only important church of its type in Dalmatia. The plan is circular, with a surrounding aisle and the principal door on the west. On the east three round apses project, of which the middle one is the largest. The aisle and apses are two-storied, being vaulted—the aisle with an annular vault that follows the outside wall. The central space or nave is open to the full height of the building, and was once covered by a dome now fallen. The arcade of eight arches has in each story six heavy piers, and two columns, taken from old Roman buildings and considerably mishandled, the columns being between the apses, which are covered by semi-domes. Both interior and exterior are extremely plain. Constantine speaks of a separate church in the second story. It was probably used by the catechumens or by the women, and was reached by a separate door, now blocked up. A rudely carved hood-moulding over the outer doorway of the staircase is the only original ornamental feature to be seen. In 1877 an excavation showed that the foundation of the church rested on an old Roman pavement, and was entirely composed of the fragments of Roman buildings, some of which were large and richly sculptured. The church was probably built by Bishop Donatus III., the patron saint of Zara, about 810, and originally dedicated to the Holy Trinity. In 1798 the Austrians turned it into a storehouse and disposed of its altars and pictures. It was restored to the cathedral authorities in 1870, and is now a museum of antiquities.

S. Pietro Vecchio, an old stone church of unknown date, perhaps before the VIII cent., which is said to be the oldest in Zara. Its plan is unusual, consisting of a double nave divided by a round-arched central arcade. The east ends of both naves are square, but covered by semi-domes carried on squinches, a common device in Dalmatia. The western end has been destroyed to make way for the apse of the adjoining church of S. Andrea. Each nave has four bays with groined vaults of poor form and construction. The central arcade is made up of Roman fragments irregularly put together.













